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# ASSIGNMENT 02

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CLOUD COMPUTING



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**02-131212-028**

**BSE-6B**



## BAHRIA UNIVERSITY (KARACHI CAMPUS)

### Assignment 2 Cloud Computing

Class: **(BSE 6B)**

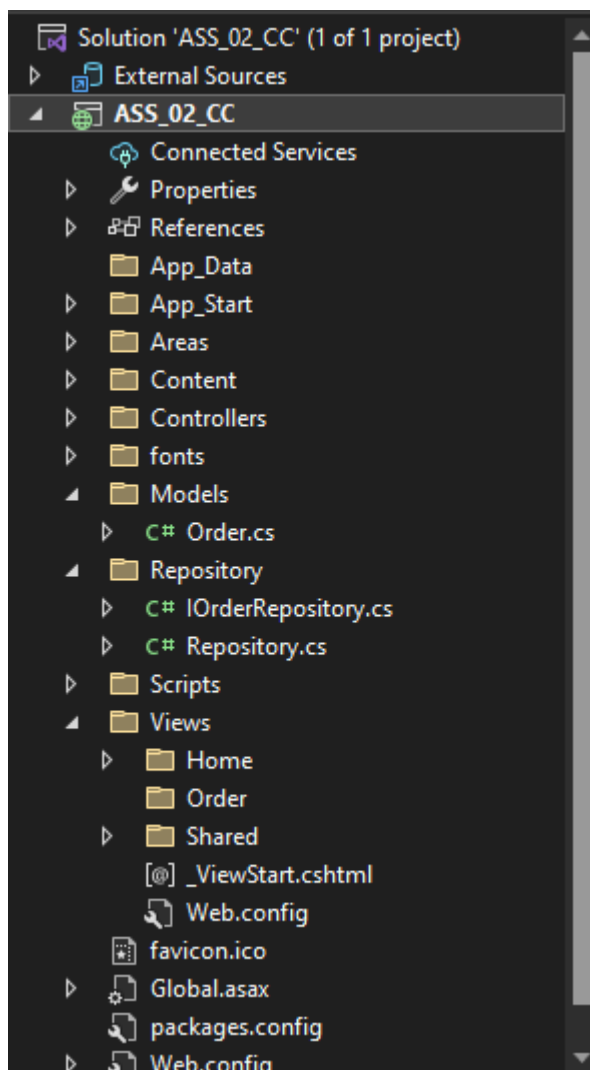
Course Instructor: **(Engr. Muhammad Faisal)**

Due date: **13/5/2024**

Student's Name: **AIMAN ZIA SATTI**

Reg. No: **79301**

**Question:** In this assignment you are supposed to develop a web API that will contain the following.



## Order.cs:

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

namespace ASS_02_CC.Models
{
    public class Order
    {
        public int OrdId { get; set; }
        public string CusName { get; set; }
        public int Laptop { get; set; }
        public int LCD { get; set; }
        public int Phone { get; set; }
    }
}
```

## Repository.cs:

```
using ASS_02_CC.Models;
using System;
using System.Collections.Generic;
using System.Linq;
using System.Web;
using static ASS_02_CC.Repository.Repository;

namespace ASS_02_CC.Repository
{
    public class Repository
    {
        public class OrderRepository : IOrderRepository
        {
            private List<Order> _orders = new List<Order>();
            private int _nextId = 1;

            public OrderRepository()
            {
                Add(new Order { CusName = "Aiman Zia Satti", Laptop = 90, LCD = 2, Phone = 7 });
                Add(new Order { CusName = "Sana", Laptop = 24, LCD = 87, Phone = 20 });
                Add(new Order { CusName = "Hassan", Laptop = 0, LCD = 26, Phone = 78 });
            }

            public IEnumerable<Order> GetAll()
            {
                return _orders;
            }

            public Order Get(int id)
            {
                return _orders.Find(o => o.OrdId == id);
            }

            public Order Add(Order item)
            {
                if (item == null)
                {
                    throw new ArgumentNullException("item");
                }
            }
        }
    }
}
```

```

        }
        item.OrdId = _nextId++;
        _orders.Add(item);
        return item;
    }

    public void Remove(int id)
    {
        _orders.RemoveAll(o => o.OrdId == id);
    }

    public bool Update(Order item)
    {
        if (item == null)
        {
            throw new ArgumentNullException("item");
        }
        int index = _orders.FindIndex(o => o.OrdId == item.OrdId);
        if (index == -1)
        {
            return false;
        }
        _orders.RemoveAt(index);
        _orders.Add(item);
        return true;
    }
}
}
}

```

## IOrderRepository:

```

using ASS_02_CC.Models;
using System;
using System.Collections.Generic;
using System.Linq;
using System.Web;

namespace ASS_02_CC.Repository
{
    public interface IOrderRepository
    {
        IEnumerable<Order> GetAll();
        Order Get(int id);
        Order Add(Order item);
        void Remove(int id);
        bool Update(Order item);
    }
}

```

## ORDER CONTROLLER:

```

using System;
using System.Collections.Generic;
using System.Linq;
using System.Net;
using System.Net.Http;
using System.Web.Http;
using ASS_02_CC.Models;
using ASS_02_CC.Repository;

```

```

using static ASS_02_CC.Repository.Repository;

namespace ASS_02_CC.Controllers
{
    public class OrderController : ApiController
    {
        static readonly IOrderRepository repository = new OrderRepository();

        public IEnumerable<Order> Get()
        {
            return repository.GetAll();
        }

        public Order Get(int id)
        {
            Order item = repository.Get(id);
            if (item == null)
            {
                throw new HttpResponseException(HttpStatusCode.NotFound);
            }
            return item;
        }

        public IEnumerable<Order> GetOrderByCusName(string CName)
        {
            return repository.GetAll().Where(
                p => string.Equals(p.CusName, CName,
                StringComparison.OrdinalIgnoreCase));
        }

        public HttpResponseMessage Post(Order item)
        {
            item = repository.Add(item);
            var response = Request.CreateResponse<Order>(HttpStatusCode.Created,
            item);

            string uri = Url.Link("DefaultApi", new { id = item.OrdId });
            response.Headers.Location = new Uri(uri);
            return response;
        }

        public void Put(int id, Order order)
        {
            order.OrdId = id;
            if (!repository.Update(order))
            {
                throw new HttpResponseException(HttpStatusCode.NotFound);
            }
        }

        public void Delete(int id)
        {
            Order item = repository.Get(id);
            if (item == null)
            {
                throw new HttpResponseException(HttpStatusCode.NotFound);
            }
            repository.Remove(id);
        }
    }
}

```

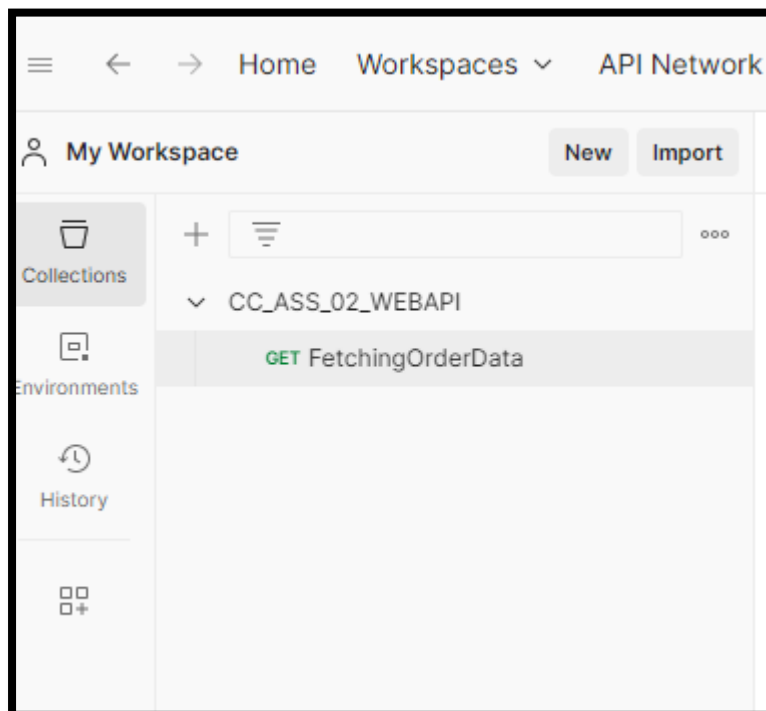
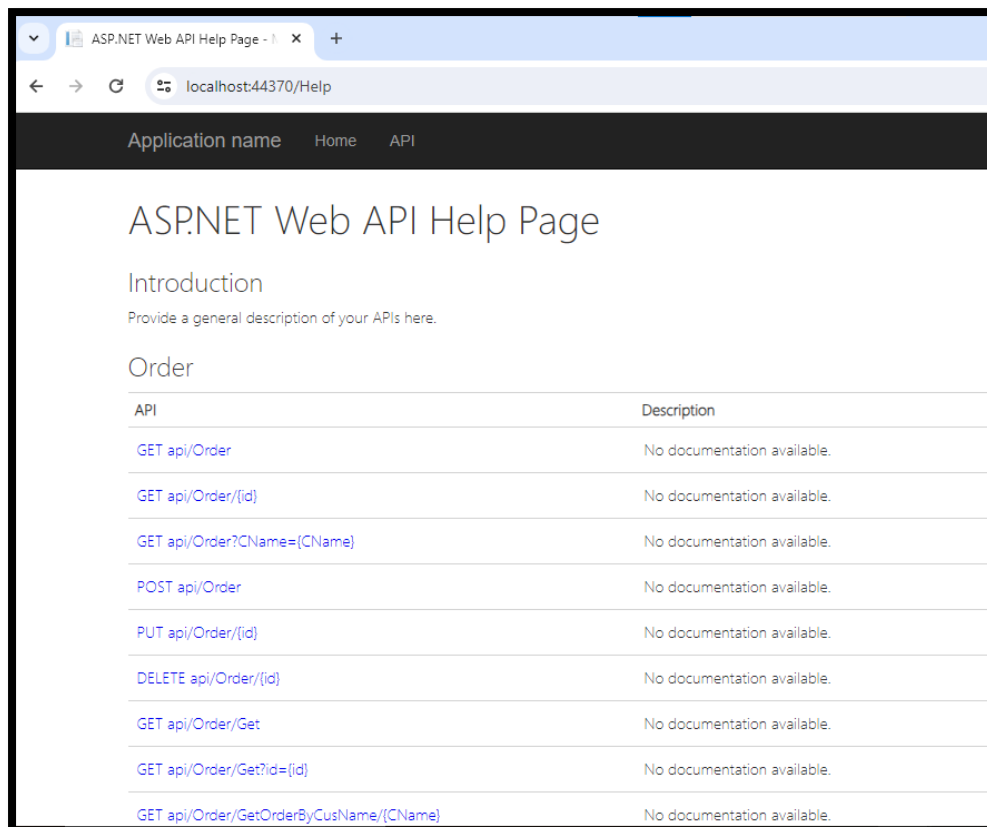
## WEBAPI CONFIG:

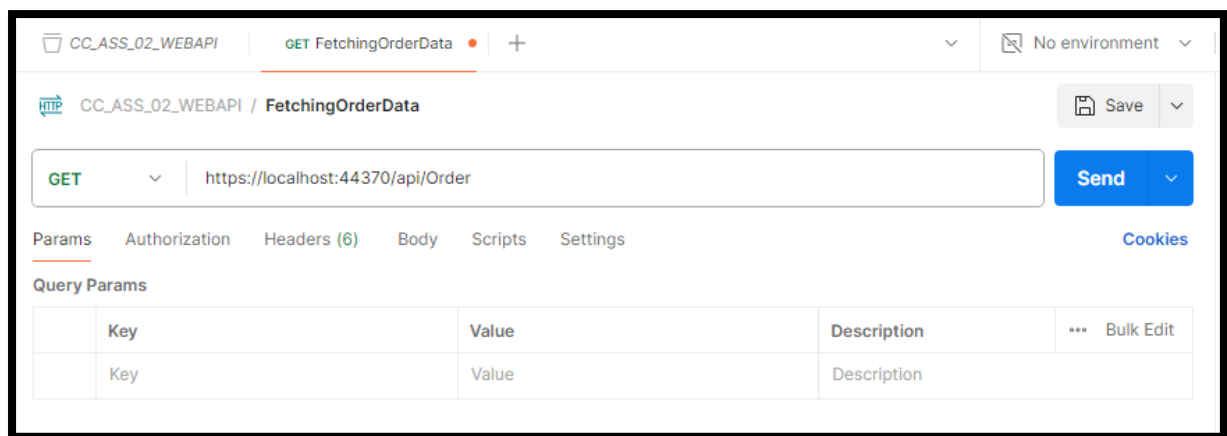
```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Web.Http;

namespace ASS_02_CC
{
    public static class WebApiConfig
    {
        public static void Register(HttpConfiguration config)
        {
            config.MapHttpAttributeRoutes();

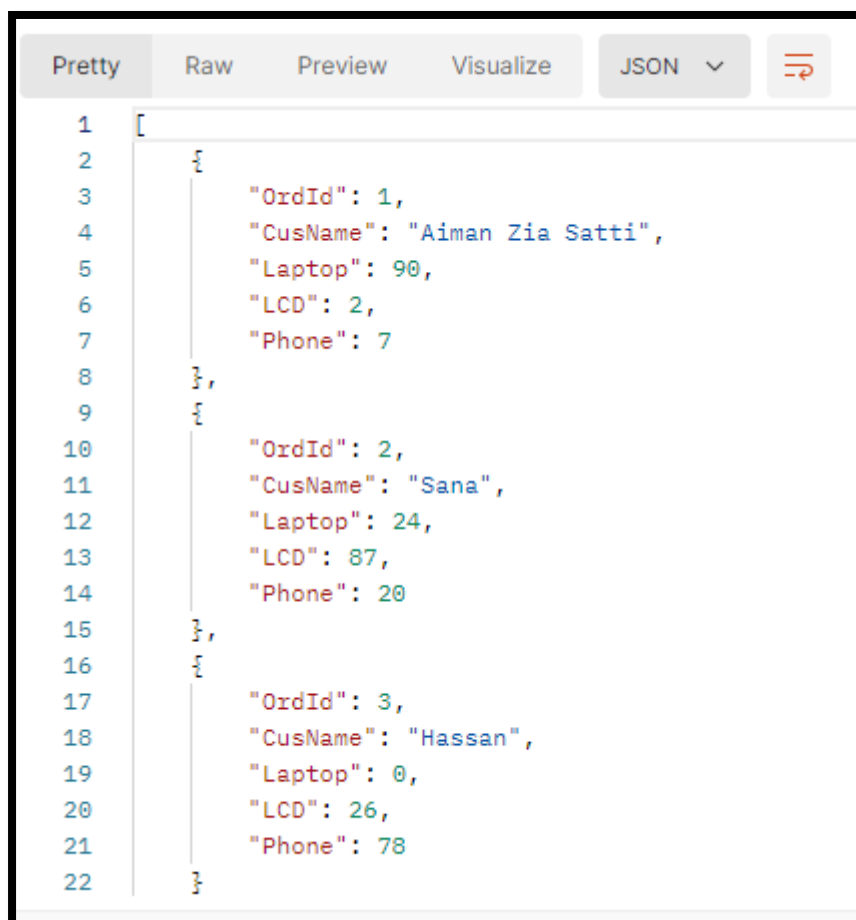
            config.Routes.MapHttpRoute(
                name: "DefaultApi",
                routeTemplate: "api/{controller}/{id}",
                defaults: new { id = RouteParameter.Optional }
            );
            config.Routes.MapHttpRoute(
                name: "OrderByCName",
                routeTemplate: "api/{controller}/{action}/{CName}",
                defaults: new { action = "GetOrderByCusName", CName =
RouteParameter.Optional }
            );
        }
    }
}
```

## OUTPUTS:





## GET ORDER:





## GET ALL:

HTTP CC\_ASS\_02\_WEBAPI / FetchingOrderData

GET https://localhost:44370/api/Order

Send

Params Authorization Headers (6) Body Scripts Settings Cookies

Query Params

Key	Value	Description	...	Bulk Edit
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Body Cookies Headers (10) Test Results 200 OK 469 ms 555 B Save as example

Pretty Raw Preview Visualize

```
[{"OrdId":1,"CusName":"Aiman Zia Satti","Laptop":90,"LCD":2,"Phone":7}, {"OrdId":2,"CusName":"Sana","Laptop":24,"LCD":87,"Phone":20}, {"OrdId":3,"CusName":"Hassan","Laptop":0,"LCD":26,"Phone":78}]
```

## POST:

POST https://localhost:44370/api/Order

Send

Params Authorization Headers (8) Body Scripts Settings Cookies

☐ none ☐ form-data ☐ x-www-form-urlencoded ☒ raw ☐ binary ☐ GraphQL JSON

Beautiful

```
1 {
2   ... "CusName": "AZS",
3   ... "Laptop": 1,
4   ... "LCD": 1,
5   ... "Phone": 1
6 }
7 }
```

Body Cookies Headers (11) Test Results 201 Created 137 ms 468 B Save as example

Pretty Raw Preview Visualize JSON

```
1 {
2   "OrdId": 4,
3   "CusName": "AZS",
4   "Laptop": 1,
5   "LCD": 1,
6   "Phone": 1
7 }
```

## PUT:

The screenshot shows a REST client interface for a project named "CC\_ASS\_02\_WEBAPI" with the endpoint "FetchingOrderData". The method is set to "PUT" and the URL is "https://localhost:44370/api/Order/3". The "Body" tab is selected, showing a JSON payload: 

```
{
  "CusName": "AZS",
  "Laptop": 1,
  "LCD": 1,
  "Phone": 1
}
```

. The status bar indicates a "204 No Content" response with a 70 ms duration and 305 B of data. The "Body" tab is also selected in the bottom panel, showing the same JSON payload.

## GET ORDER BY ID:

The screenshot shows a REST client interface for a project named "CC\_ASS\_02\_WEBAPI" with the endpoint "FetchingOrderData". The method is set to "GET" and the URL is "https://localhost:44370/api/Order/3". The "Body" tab is selected, showing a JSON response: 

```
{
  "OrdId": 3,
  "CusName": "AZS",
  "Laptop": 1,
  "LCD": 1,
  "Phone": 1
}
```

. The status bar indicates a "200 OK" response with a 11 ms duration and 420 B of data. The "Body" tab is also selected in the bottom panel, showing the same JSON response.

## DELETE:

CC\_ASS\_02\_WEBAPI / FetchingOrderData

DELETE <https://localhost:44370/api/Order/3> Send

Params Authorization Headers (8) Body • Scripts Settings Cookies

Query Params

Key	Value	Description	...	Bulk Edit
Key	Value	Description		

Body Cookies Headers (8) Test Results 204 No Content 15 ms 305 B Save as example

Pretty Raw Preview Visualize Text 1

## AFTER DELETION AND UPDATION:

CC\_ASS\_02\_WEBAPI / FetchingOrderData

GET <https://localhost:44370/api/Order> Send

Params Authorization Headers (8) Body • Scripts Settings Cookies

Query Params

Key	Value	Description	...	Bulk Edit
Key	Value	Description		

## OrdId:3 HAS BEEN DELETED AND REMAINING RECORD HAS BEEN DISPLAYED:

Body Cookies Headers (10) Test Results

Pretty Raw Preview Visualize JSON 1

```
[
  {
    "OrdId": 1,
    "CusName": "Aiman Zia Satti",
    "Laptop": 90,
    "LCD": 2,
    "Phone": 7
  },
  {
    "OrdId": 2,
    "CusName": "Sana",
    "Laptop": 24,
    "LCD": 87,
    "Phone": 20
  }
]
```

```
16      {
17          "OrdId": 4,
18          "CusName": "AZS",
19          "Laptop": 1,
20          "LCD": 1,
21          "Phone": 1
22      },
23      {
24          "OrdId": 5,
25          "CusName": "AZS",
26          "Laptop": 1,
27          "LCD": 1,
28          "Phone": 1
29      }
30  ]
```