



ASP.NET Core Web API

A project template for creating an ASP.NET Core application with an example Controller for a RESTful HTTP service. This template can also be used for ASP.NET Core MVC Views and Controllers.

C#

Linux

macOS

Windows

Cloud

Service

Web

WebAPI

Configure your new project

ASP.NET Core Web API

C#

Linux

macOS

Windows

Cloud

Service

Web

WebAPI

Project name

API_Gateway

Location

D:\wsd\web_api\ToDoApi



...

Additional information

ASP.NET Core Web API

C#

Linux

macOS

Windows

Cloud

Service

Web

WebAPI

Framework ⓘ

.NET 7.0 (Standard Term Support) ▼

Authentication type ⓘ

None ▼

☒ Configure for HTTPS ⓘ

☐ Enable Docker ⓘ

Docker QS ⓘ

Linux ▼

☒ Use controllers (uncheck to use minimal APIs) ⓘ

☒ Enable OpenAPI support ⓘ

☐ Do not use top-level statements ⓘ

Search Solution Explorer (Ctrl+;)



✓  **Solution 'ToDoApi' (2 of 2 projects)**

▷   API_Gateway

▷   ToDoApi

NuGet Package Manager API_Gateway

Package source: nuget.org



Ocelot



nuget.org

Version: Latest stable 18.0.0

Install

Options

Description

Ocelot is an API Gateway. The project is aimed at people using .NET running a micro services / service orientated architecture that need a unified point of entry into their system. In particular I want easy integration with IdentityServer reference and bearer tokens. reference tokens. Ocelot is a bunch of middlewares in a specific order. Ocelot manipulates the HttpRequest object into a state specified by its configuration until it reaches a request builder middleware where it creates a HttpRequestMessage object which is used to make a request to a downstream service. The middleware that makes the request is the last thing in the Ocelot pipeline. It does not call the next middleware. The response from the downstream service is stored in a per request scoped repository and retrived as the requests goes back up the Ocelot pipeline. There is a piece of middleware that maps the HttpResponseMessage onto the HttpResponse object and that is returned to the client. That is basically it with a bunch of other features.

Version: 18.0.0

Author(s): Tom Pallister

Date published: Friday, January 21, 2022 (1/21/2022)

Project URL: <https://github.com/ThreeMammals/Ocelot>

NuGet Package Manager: API_Gateway

Package source: nuget.org



Ocelot.Cache.CacheManager



nuget.org

Version: Latest stable 18.0.0



Install



Options

Description

Provides Ocelot extensions to use CacheManager.Net

Version: 18.0.0

Author(s): Tom Pallister

Date published: Friday, January 21, 2022 (1/21/2022)

Project URL: <https://github.com/ThreeMammals/Ocelot.Cache.CacheManager>

Report Abuse: <https://www.nuget.org/packages/Ocelot.Cache.CacheManager/18.0.0/ReportAbuse>

Tags: API, Gateway, .NET, core

Dependencies

net6.0

Ocelot (>= 18.0.0)

CacheManager.Core (>= 2.0.0-beta-1629)

CacheManager.Microsoft.Extensions.Configuration (>= 2.0.0)

CacheManager.Microsoft.Extensions.Logging (>= 2.0.0-beta

Installed

Sort by: Default



Search (Ctrl+E)



C#

General

ASP.NET Core

Online

	Startup Class	C#
	App Settings File	C#
	Resources File	C#
	Text File	C#
	HTML Page	C#
	JavaScript File	C#
	Style Sheet	C#
	TypeScript File	C#
	TypeScript JSX File	C#
	JavaScript JSON Configuration File	C#
	TypeScript JSON Configuration File	C#
	JSON File	C#
	JSON Schema File	C#
	Web Configuration File	C#

Type: C#

JSON is a lightweight data-interchange format.

Name: ocelot

Add

Cancel

https://json.schemastore.org/ocelot.json

```
1  {
2    "Routes": [
3      {                                Microservice EndPoint
4        "DownstreamPathTemplate": "/api/todoitems/",
5        "DownstreamScheme": "https",
6        "DownstreamHostAndPorts": [
7          {
8            "Host": "localhost",
9            "Port": 7051
10         }
11      ],                                Client EndPoint
12      "UpstreamPathTemplate": "/GetTodoItems/",
13      "UpstreamHttpMethod": [ "Get" ]
14    },                                // Error if "/GetTodoItems"
15    {
16      "DownstreamPathTemplate": "/api/todoitems/{id}",
17      "DownstreamScheme": "https",
18      "DownstreamHostAndPorts": [
19        {
20          "Host": "localhost",
21          "Port": 7051
22        }
23      ],
24      "UpstreamPathTemplate": "/GetTodoItems/{id}",
25      "UpstreamHttpMethod": [ "Get" ]
26    },
27  ]
}
```


na: <https://json.schemastore.org/ocelot.json>

```
27  {
28      "DownstreamPathTemplate": "/api/todoitems/",
29      "DownstreamScheme": "https",
30      "DownstreamHostAndPorts": [
31          {
32              "Host": "localhost",
33              "Port": 7051
34          }
35      ],
36      "UpstreamPathTemplate": "/PostTodoItem/",
37      "UpstreamHttpMethod": [ "Post" ]
38  },
39  {
40      "DownstreamPathTemplate": "/api/todoitems/{id}",
41      "DownstreamScheme": "https",
42      "DownstreamHostAndPorts": [
43          {
44              "Host": "localhost",
45              "Port": 7051
46          }
47      ],
48      "UpstreamPathTemplate": "/PutTodoItem/{id}",
49      "UpstreamHttpMethod": [ "Put" ]
50  }
51  ]
52  }
```

```
using Ocelot.Cache.CacheManager;
using Ocelot.DependencyInjection;
using Ocelot.Middleware;

var builder = WebApplication.CreateBuilder(args);

// Add services to the container.
builder.Configuration.SetBasePath(Directory.GetCurrentDirectory())
    .AddJsonFile("ocelot.json", optional: false, reloadOnChange: true)
    .AddEnvironmentVariables();

builder.Services.AddControllers();
// Learn more about configuring Swagger/OpenAPI at https://aka.ms/aspnetcore/swashbuckle
builder.Services.AddEndpointsApiExplorer();
builder.Services.AddSwaggerGen();

builder.Services.AddOcelot().AddCacheManager(x => x.WithDictionaryHandle());

var app = builder.Build();

// Configure the HTTP request pipeline.
if (app.Environment.IsDevelopment())
{
    app.UseSwagger();
    app.UseSwaggerUI();
}
```

```
.AddEnvironmentVariables();

builder.Services.AddControllers();
// Learn more about configuring Swagger/OpenAPI at https://aka.ms/aspnetcore/swashbuckle
builder.Services.AddEndpointsApiExplorer();
builder.Services.AddSwaggerGen();

builder.Services.AddOcelot().AddCacheManager(x => x.WithDictionaryHandle());

var app = builder.Build();

// Configure the HTTP request pipeline.
if (app.Environment.IsDevelopment())
{
    app.UseSwagger();
    app.UseSwaggerUI();
}

app.UseOcelot();

app.UseHttpsRedirection();

app.UseAuthorization();

app.MapControllers();

app.Run();
```



```

public class TodoContext : DbContext
{
    0 references
    public TodoContext(DbContextOptions<TodoContext> options)
        : base(options)
    {
    }
    0 references
    protected override void OnModelCreating(ModelBuilder modelBuilder)
    {
        modelBuilder.Entity<TodoItem>().HasData(
            new TodoItem()
            {
                Id = 1,
                Name = "Meeting",
                IsComplete = false
            }
        );
    }
    11 references
    public DbSet<TodoItem> TodoItems { get; set; } = null!;
    0 references
    public DbSet<Address> Address { get; set; }
}

```

**Data
Seeding**

Configuration:

N/A

Platform:

N/A

Configuration Manager...

▲ Common Properties

Startup Project

Project Dependencies

Code Analysis Settings

Debug Source Files

▸ Configuration Properties

☐ Current selection☐ Single startup project

ToDoApi

☒ Multiple startup projects:

Project	Action
API_Gateway	Start
ToDoApi	Start



OK

Cancel

Apply

GET

▼

https://localhost:7140/GetTodoItems

Send

▼

- Params
- Authorization
- Headers (6)
- Body
- Pre-request Script
- Tests
- Settings
- Cookies

Query Params

	KEY	VALUE	DESCRIPTION	...	Bulk Edit
	Key	Value	Description		

- Body
- Cookies
- Headers (4)
- Test Results
- Status: 200 OK
- Time: 1202 ms
- Size: 190 B
- Save Response
- ▼

- Pretty
- Raw
- Preview
- Visualize
- JSON
- ▼
-

```
1  [
2    {
3      "id": 1,
4      "taskName": "Meeting",
5      "isComplete": false
6    }
7  ]
```

GET

▼

https://localhost:7140/GetTodoItems/1

Send

▼

- Params
- Authorization
- Headers (6)
- Body
- Pre-request Script
- Tests
- Settings
- Cookies

Query Params

	KEY	VALUE	DESCRIPTION	...	Bulk Edit
	Key	Value	Description		

- Body
- Cookies
- Headers (4)
- Test Results
-  Status: 200 OK Time: 233 ms Size: 188 B
- Save Response ▼

- Pretty
- Raw
- Preview
- Visualize
- JSON ▼
- 



```
1 {
2   "id": 1,
3   "taskName": "Meeting",
4   "isComplete": false
5 }
```

GET

https://localhost:7140/GetTodoItems/2

Send

- Params
- Authorization
- Headers (6)
- Body
- Pre-request Script
- Tests
- Settings
- Cookies

Query Params

	KEY	VALUE	DESCRIPTION	...	Bulk Edit
	Key	Value	Description		

- Body
- Cookies
- Headers (4)
- Test Results
-  Status: 404 Not Found Time: 80 ms Size: 317 B
- Save Response

Pretty

Raw

Preview

Visualize

JSON

```
1 {
2   "type": "https://tools.ietf.org/html/rfc7231#section-6.5.4",
3   "title": "Not Found",
4   "status": 404,
5   "traceId": "00-34cbc9db1a57eb74a28bac408b4f43e5-9cec79c33cda48fa-00"
6 }
```

POST

https://localhost:7140/PostTodoItem/

Send

Params

Authorization

Headers (8)

Body

Pre-request Script

Tests

Settings

Cookies

☐ none

☐ form-data

☐ x-www-form-urlencoded

☒ raw

☐ binary

☐ GraphQL

JSON

Beautify

```
1 {  
2   "id": 2,  
3   "TaskName": "Lecture",  
4   "IsComplete": false  
5 }
```

Body

Cookies

Headers (5)

Test Results



Status: 201 Created

Time: 956 ms

Size: 243 B

Save Response

Pretty

Raw

Preview

Visualize

JSON



```
1 {  
2   "id": 2,  
3   "taskName": "Lecture",  
4   "isComplete": false  
5 }
```

GET

https://localhost:7140/GetTodoItems/

Send

Params

Authorization

Headers (6)

Body

Pre-request Script

Tests

Settings

Cookies

Headers

Hide auto-generated headers

	KEY	VALUE	DESCRIPTION	...	Bulk Edit	Presets
<input checked="" type="checkbox"/>	Postman-Token	<calculated when request is sent>				
<input checked="" type="checkbox"/>	Host	<calculated when request is sent>				
<input checked="" type="checkbox"/>	User-Agent	PostmanRuntime/7.31.0				

Body

Cookies

Headers (4)

Test Results

Status: 200 OK

Time: 391 ms

Size: 239 B

Save Response

Pretty

Raw

Preview

Visualize

JSON

```
1  [
2    {
3      "id": 1,
4      "taskName": "Meeting",
5      "isComplete": false
6    },
7    {
8      "id": 2,
9      "taskName": "Lecture",
10     "isComplete": false
11   }
12 ]
```


PUT

https://localhost:7140/PutTodoItem/2

Send

Params Authorization Headers (8) **Body** Pre-request Script Tests Settings

Cookies

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

Beautify

```
1 {  
2   ... "id" : 2,  
3   ... "TaskName" : "Lecture",  
4   ... "IsComplete" : true  
5 }
```

Body Cookies Headers (2) Test Results



Status: 204 No Content Time: 173 ms Size: 81 B

Save Response

Pretty

Raw

Preview

Visualize

Text



1

GET

https://localhost:7140/GetTodoItems/2

Send

Params

Authorization

Headers (6)

Body

Pre-request Script

Tests

Settings

Cookies

Query Params

	KEY	VALUE	DESCRIPTION	...	Bulk Edit
	Key	Value	Description		

Body

Cookies

Headers (4)

Test Results

Status: 200 OK

Time: 44 ms

Size: 187 B

Save Response

Pretty

Raw

Preview

Visualize

JSON

1

{

2

"id": 2,

3

"taskName": "Lecture",

4

"isComplete": true

5

}