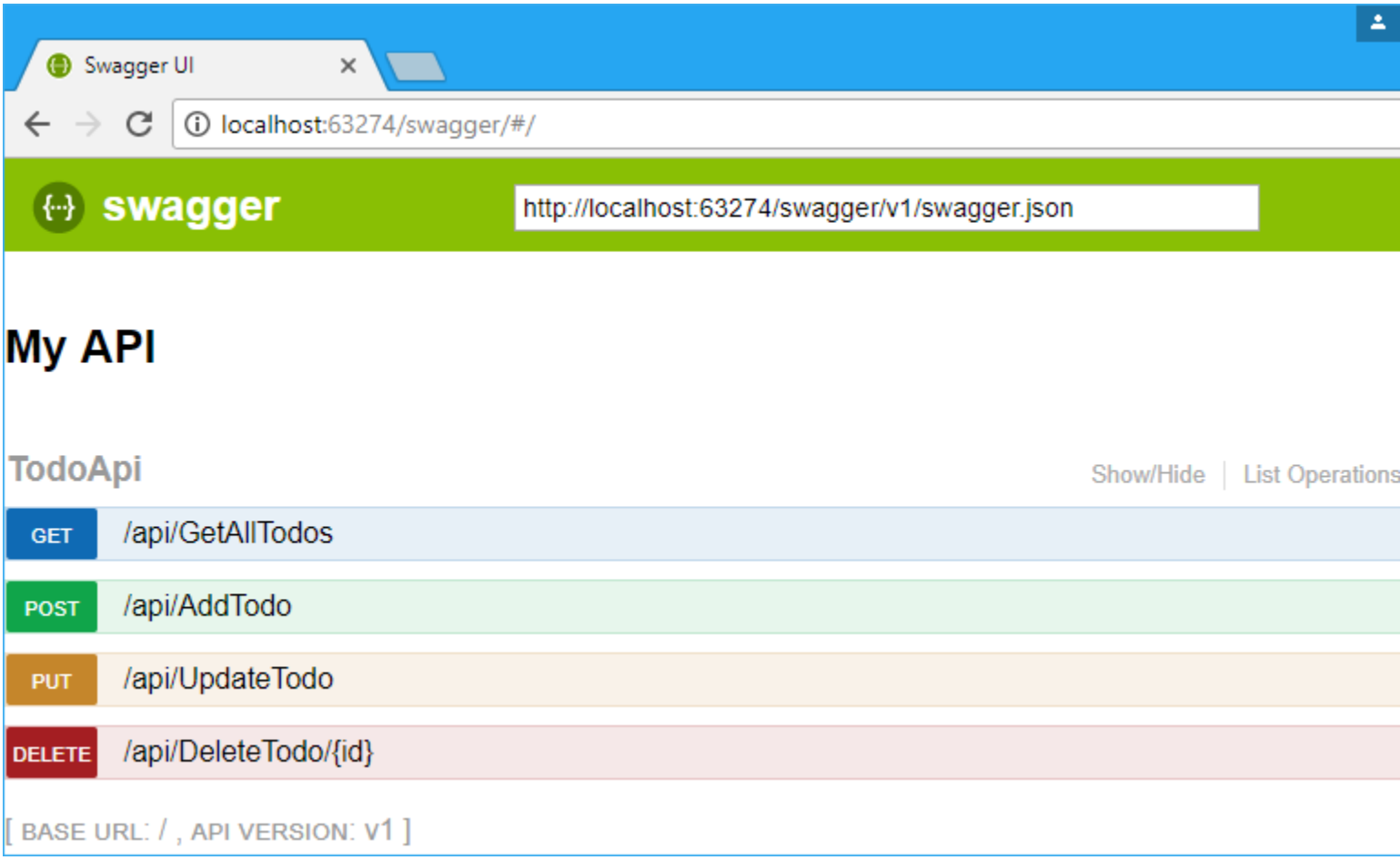
How to Use Swagger with ASP.NET Core Web APIs.

Visual Studio 2017, ASP.NET Core 2.0, By John Kocer- SmartIT

Tags: Swagger, Visual Studio 2017, ASP.NET Core, Web API, API Test, Do-to List, SmartIT



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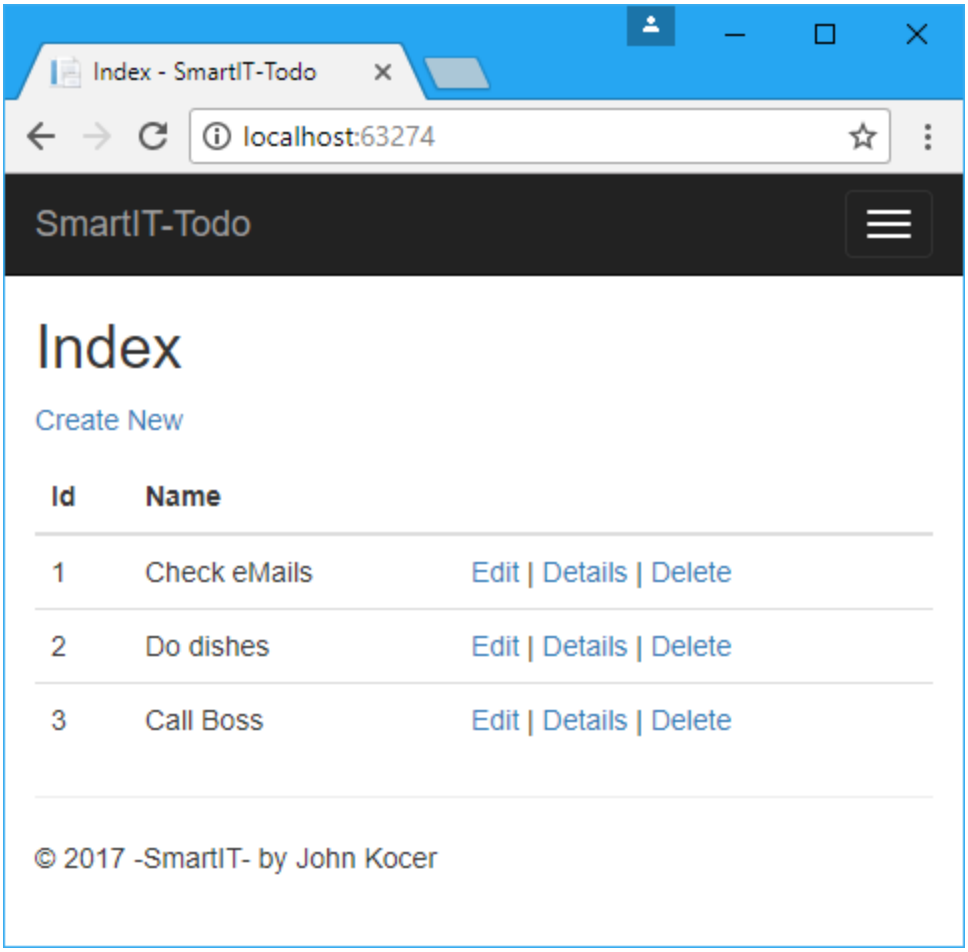
If you are developer, tester or a manager, sometimes understanding the various methods of API can be a challenge when building and consuming the application.

Generating good documentation and help pages for your Web API, using Swagger with .NET Core is as easy as adding a couple of NuGet and modifying the Startup.cs

Let's start a downloading simple To-do projects from Github.

1. Download and run below TodoMvcSolution from below link.
   https://github.com/SmartITAz/TodoMvcSolution



2. NuGet Packages
   Install the below NuGet package

```
Install-Package Swashbuckle.AspNetCore
```

Configure Swagger in the Startup.cs.

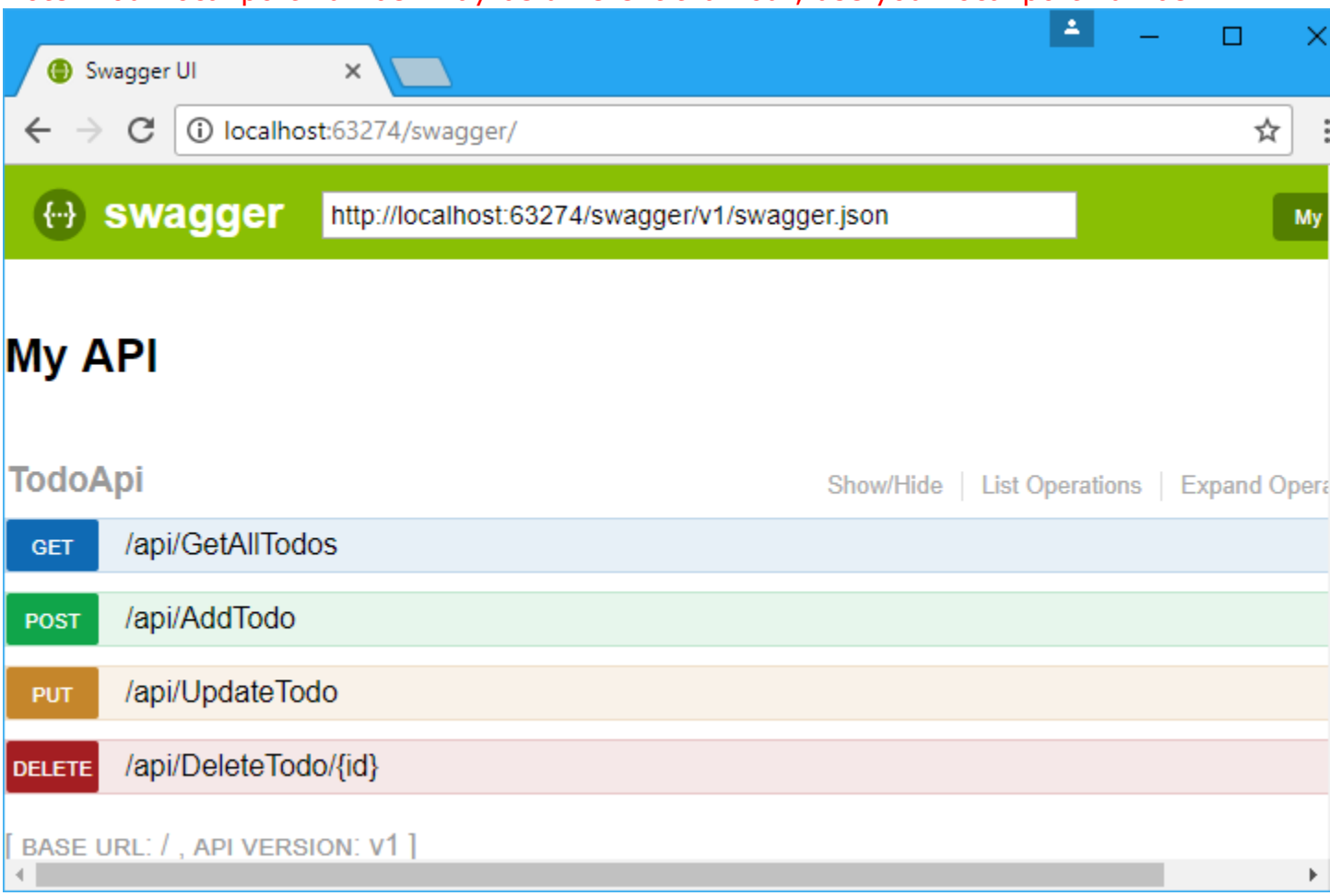
-Add the Swagger generator to the service collection after `services.AddMvc();`
-Enable the middleware for serving the generated JSON document after `app.UseStaticFiles();`
-Add the below background yellow lines in your Startup file.

```
using Microsoft.AspNetCore.Builder;
using Microsoft.AspNetCore.Hosting;
using Microsoft.Extensions.Configuration;
using Microsoft.Extensions.DependencyInjection;
using Swashbuckle.AspNetCore.Swagger;

namespace Todo.Mvc.Ui
{
  public class Startup
  {
    public Startup(IConfiguration configuration)
    {
      Configuration = configuration;
    }

    public IConfiguration Configuration { get; }

    // This method gets called by the runtime. Use this method to add services to the container.
    public void ConfigureServices(IServiceCollection services)
    {
      services.AddMvc();

      // Register the Swagger generator, defining one or more Swagger documents
      services.AddSwaggerGen(c =>
      {
        c.SwaggerDoc("v1", new Info { Title = "My API", Version = "v1" });
      });
    }

    // This method gets called by the runtime. Use this method to configure the HTTP request
pipeline.
    public void Configure(IApplicationBuilder app, IHostingEnvironment env)
    {
      if (env.IsDevelopment())
      {
        app.UseDeveloperExceptionPage();
        app.UseBrowserLink();
      }
      else
      {
        app.UseExceptionHandler("/Home/Error");
      }

      app.UseStaticFiles();

      // Enable middleware to serve generated Swagger as a JSON endpoint.
      app.UseSwagger();

      // Enable middleware to serve swagger-ui (HTML, JS, CSS, etc.), specifying the Swagger JSON
endpoint.
      app.UseSwaggerUI(c =>
      {
        c.SwaggerEndpoint("/swagger/v1/swagger.json", "My API V1");
      });


      app.UseMvc(routes =>
      {
        routes.MapRoute(
                  name: "default",
                  template: "{controller=Todo}/{action=Index}/{id?}");
      });
    }
  }
```

```
}
```

Go to http://localhost:63274/swagger/

Note: Your local port number may be different than our, use your local port number.



-Click on Get Try it out and you will see the response in Response body section.


Swagger UI
localhost:63274/swagger/#!/TodoApi/ApiGetAllTodosGet
GET
/api/GetAllTodos
Response Class (Status 200)
Success
Model
Example Value
[
{
"id": 0,
"name": "string"
}
]
Response Content Type
application/json
Try it out!
Hide Response
Curl
curl -X GET --header 'Accept: application/json' 'http://localhost:63274/api/GetAllTodo
Request URL
http://localhost:63274/api/GetAllTodos
Response Body
[
{
"id": 1,
"name": "Check eMails"
},
{
"id": 2,
"name": "Do dishes"
},
{
"id": 3,
"name": "Call Boss"
}
]

Here is the Web APIs

```
//Copyright 2017 (c) SmartIT. All rights reserved.
//By John Kocer
// This file is for Swagger test, this application does not use this file
using System.Collections.Generic;
using Microsoft.AspNetCore.Mvc;
using SmartIT.Employee.MockDB;

namespace TodoAngular.Ui.Controllers
{
  [Produces("application/json")]
  [Route("api/Todo")]
  public class TodoApiController : Controller
  {
    TodoRepository _todoRepository = new TodoRepository();

    [Route("~/api/GetAllTodos")]
    [HttpGet]
    public IEnumerable<SmartIT.Employee.MockDB.Todo> GetAllTodos()
    {
      return _todoRepository.GetAll();
    }

    [Route("~/api/AddTodo")]
    [HttpPost]
    public SmartIT.Employee.MockDB.Todo AddTodo([FromBody]SmartIT.Employee.MockDB.Todo item)
    {
      return _todoRepository.Add(item);
    }

    [Route("~/api/UpdateTodo")]
    [HttpPut]
    public SmartIT.Employee.MockDB.Todo UpdateTodo([FromBody]SmartIT.Employee.MockDB.Todo item)
    {
      return  _todoRepository.Update(item);
    }

    [Route("~/api/DeleteTodo/{id}")]
    [HttpDelete]
    public void Delete(int id)
    {
      var findTodo = _todoRepository.FindById(id);
      if (findTodo != null)
        _todoRepository.Delete(findTodo);
    }
  }
}
```

NOTE:

We have two controller files TodoController and TodoApiController. TodoController is MVC Controller and Swagger did not show the API methods, because it does not know how to route and also controller methods return a View.

```
public class TodoController : Controller
{
  TodoRepository _todoRepository = new TodoRepository();
  // GET: Todo
  public ActionResult Index()
  {
    var todos = (List<SmartIT.Employee.MockDB.Todo>)_todoRepository.GetAll();
    return View(todos);
  }

  // GET: Todo/Details/5
  public ActionResult Details(int id)
  {
    var findTodo = _todoRepository.FindById(id);
    return View(findTodo);
  }

  // GET: Todo/Create
  public ActionResult Create()
  {
    return View();
  }

  // POST: Todo/Create
  [HttpPost]
  [ValidateAntiForgeryToken]
  public ActionResult Create(IFormCollection collection)
  {
    try
    {
      _todoRepository.Add(new SmartIT.Employee.MockDB.Todo() { Name = collection["Name"] });

      return RedirectToAction(nameof(Index));
    }
    catch
    {
      return View();
    }
  }
```

Summary

In this article, we will learned

How to Use Swagger with ASP.NET Core Web APIs

Download color pdf version of this article with pictures.

https://github.com/SmartITAz/TodoMvcSwaggerSolution/blob/master/ SwaggerAspNetCoreVs2017.pdf

NOTE: If you need to copy and paste the code download the pdf file locally.

Download source code from GitHub: https://github.com/SmartITAz/TodoMvcSwaggerSolution

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