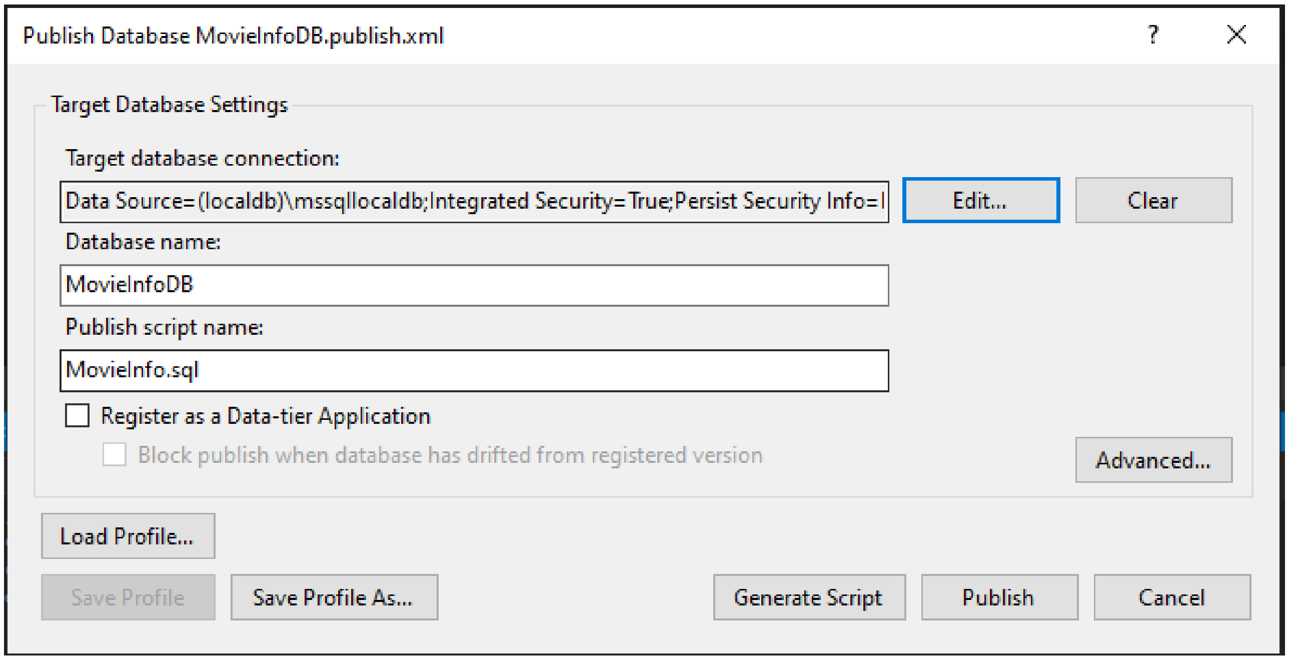
Prerequisites

1. Setup Local DB:
   a. Please use the SQL Server project named, **MovieInfoDB** to publish and setup the database named, **MovieInfoDB** with some sample data.

   You may use the publish file, **MovieInfoDB.publish.xml** that is available in the MovieInfoDB project, to preload the connection string and other related information as shown below



Publish Database MovieInfoDB.publish.xml

Target Database Settings

Target database connection: Data Source=(localdb)\mssqllocaldb;Integrated Security=True;Persist Security Info=I

Database name: MovieInfoDB

Publish script name: MovieInfo.sql

☐ Register as a Data-tier Application

☐ Block publish when database has drifted from registered version

2. Please change the connection string, **MovieInfoDB_Connection** at appsettings.json file, if needed

3. Build and Run the API
   You may choose *MovieInfoApi* instead of IIS Express option at the VS top toolbar, if you wish to continue with the preset port of *5000*

API Endpoints

Please note the following endpoints
Base URL:
http://localhost:5000/api/v1/

API A : To query movie data based on provided filter criteria: title, year of release, genre(s)

1. Movies by the filter criteria – with all 3 params
   {{URL}}/movie?title=The&year=2009&genere=Comedy
2. Movies by the filter criteria - With 2 params
   {{URL}}/movie?year=2009&genere=Comedy
3. Movies by the filter criteria - Partial search string
   {{URL}}/movie?year=2009

API B : To query top n (default 5) movies based on total user rating

1. Top ‘n’ Movies - default ie top 5
   {{URL}}/movie/top
2. Top 20 (or ‘n’) Movies
   {{URL}}/movie/top/20

API C : To query top n (default 5) movies based on a certain user’s rating

1. Top 5 (default) Movies by User Rating
   {{URL}}/movie/top?userId=1

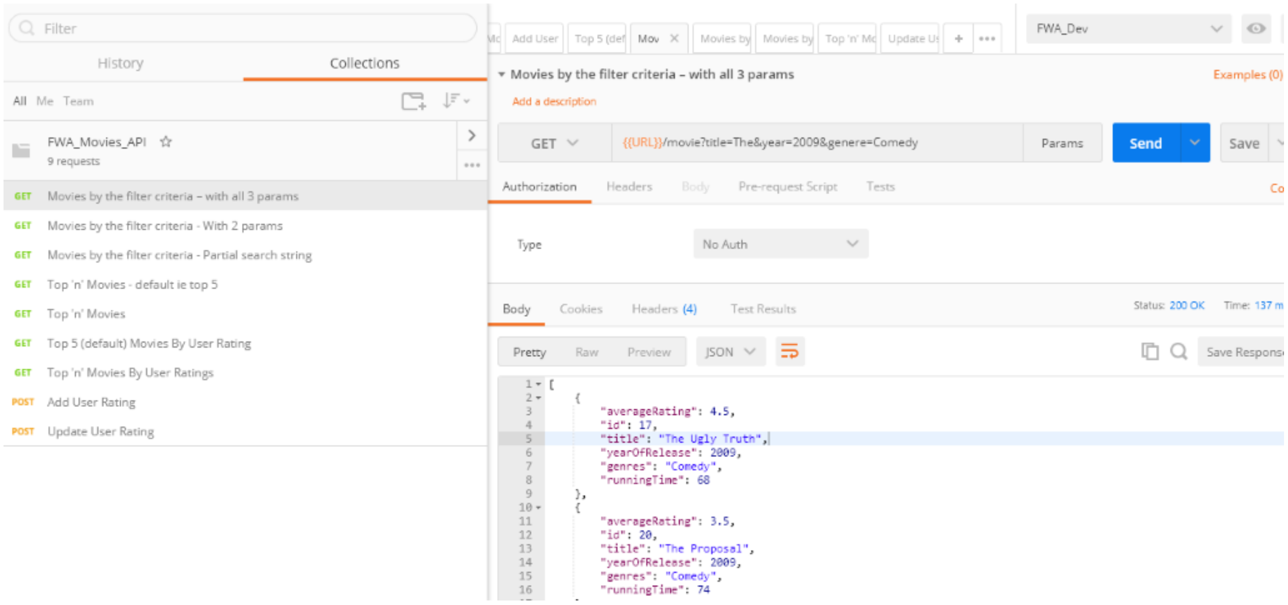
2. Top 10 (or ‘n’) Movies by User Ratings
   {{URL}}/movie/top/10?userId=1

API D : To add or update user rating for a movie
{{URL}}/movieratings

Postman Data dump

Please use the postman data dump, **FWA_Dev_postman_dump**, that is attached to the project for the environments and some test APIs.

Please make sure to use the environment, **FWA_Dev** to be able to run the test APIs, as shown below



FWA_Movies_API
9 requests

GET Movies by the filter criteria – with all 3 params
GET Movies by the filter criteria - With 2 params
GET Movies by the filter criteria - Partial search string
GET Top 'n' Movies - default ie top 5
GET Top 'n' Movies
GET Top 5 (default) Movies By User Rating
GET Top 'n' Movies By User Ratings
POST Add User Rating
POST Update User Rating

Movies by the filter criteria – with all 3 params

GET {{URL}}/movie?title=The&year=2009&genere=Comedy

Type: No Auth

Status: 200 OK Time: 137 m

```
[
    {
        "averageRating": 4.5,
        "id": 17,
        "title": "The Ugly Truth",
        "yearOfRelease": 2009,
        "genres": "Comedy",
        "runningTime": 68
    },
    {
        "averageRating": 3.5,
        "id": 20,
        "title": "The Proposal",
        "yearOfRelease": 2009,
        "genres": "Comedy",
        "runningTime": 74
```

Scope for improvement(s)

API A - To query movie data based on provided filter criteria: title, year of release, genre(s)

Since this API deals with multiple optional query parameters, which has a data limitation, we could send the search criteria in a POST, which would return the Id after save criteria, which in turn would be used to Get the Movies for the given search criteria ID.

Some of the **benefits** in using above method are as follows:

1. Scalable for future needs ie Search Criteria can be extended to more attributes

2. Data would be secured, if any of the search criteria has sensitive information

However, the **disadvantage** is that it involves multiple API calls.

API D - To add or update user rating for a movie

Its highly recommended to avoid POST for the sake of updating a resource as POST is not idempotent but PUT is however for the purpose of this coding assignment, I have used the POST for Add and update.

Exception Handling
No exception handling is included

Logging

Not much logging is included

LINQ vs Lambda expressions

Used mostly LINQ but included one method with Lambda expressions

Unit testing

Due to limited time, could include or cover edge cases

Best practices

I tried to follow the best practices but had to take some exemptions to be able to finish faster.