

LAPORAN DESAIN DAN PERANCANGAN REST API

Aplikasi Film API dan Local



Mata Kuliah

Pemrograman Berbasis Platform

Dosen

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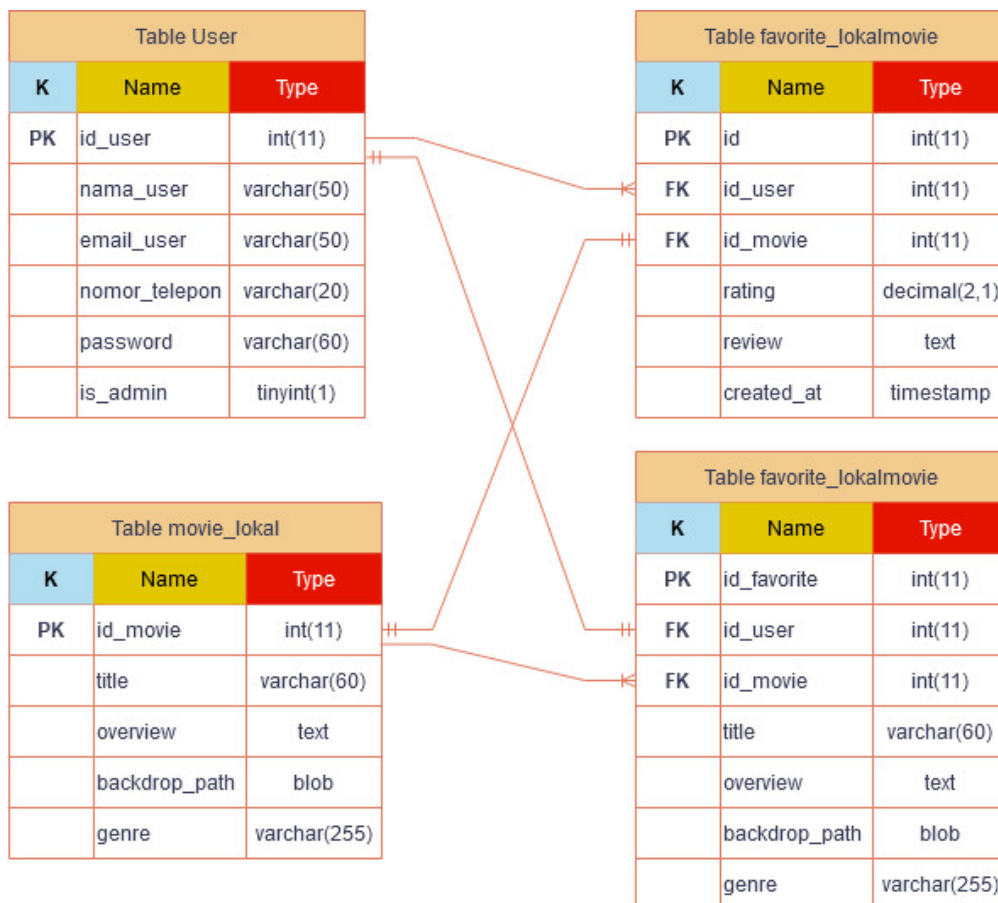
Pendahuluan

Aplikasi ini dikembangkan untuk memberikan layanan informasi dan manajemen film dengan fitur-fitur utama seperti pencarian film, pengelolaan daftar favorit, serta ulasan dan rating oleh pengguna. API ini dibangun menggunakan **Node.js**, **Express**, dan **MySQL**, serta mengintegrasikan API publik untuk data film.

Perancangan Database

Database dirancang dengan minimal **4 tabel yang saling berelasi**, yaitu:

1. **User** - Menyimpan data pengguna.
2. **Movie_lokal** - Menyimpan data film lokal.
3. **Favorite_lokalmovie** - Menyimpan daftar film favorit pengguna.
4. **Movie_reviews** - Menyimpan ulasan dan rating film.



Perancangan Endpoint API

Aplikasi ini memiliki minimal **20 endpoint** yang mencakup autentikasi, pengelolaan data film, dan fitur tambahan seperti favorit dan ulasan.

Autentikasi

- **POST /register** → Mendaftarkan pengguna baru
- **POST /user/login** → Login pengguna dengan JWT

User

- **GET /user/:id** → Melihat profil masing masing user
- **PUT /updatedata/:id** → Mengedit data pribadi
- **GET /alluser** → Mendapatkan data seluruh user (admin)
- **DELETE /deletedata** → Menghapus data user (admin)

Film (Local Database)

- **GET /allmovies** → Melihat daftar film lokal
- **GET /searchlocalmovie** → Melihat daftar film lokal berdasarkan nama
- **GET /localgenre** → Mendapatkan detail film lokal berdasarkan genre
- **POST /localmovies** → Menambahkan film lokal (admin)
- **PUT /updatemovie/:id** → Mengedit data film lokal (admin)
- **DELETE /deletemovie** → Menghapus film lokal (admin)

Film (API Publik)

- **GET /movies** → Melihat film dari API eksternal
- **GET /trending-movies** → Melihat film trending
- **GET /genres** → Melihat daftar genre

Favorit

- **POST /addlocalfavorites** → Menambahkan film lokal ke favorit
- **GET /favorites-movies** → Melihat daftar lokal favorit
- **DELETE /favorites/:movieid** → Menghapus film lokal dari favorit

Ulasan dan Rating

- **POST /reviews** → Menambahkan ulasan dan rating
- **GET /reviews** → Melihat ulasan suatu film

Input dan Output yang di harapkan

Autentikasi

- **POST /register** → Mendaftarkan pengguna baru

Input :

```
1  {
2    "nama_user" : "dading",
3    "email_user" : "dading@gmail.com",
4    "nomor_telepon" : "0812332313",
5    "password" : "123456"
6  }
```

Output :

```
{
  "nama_user": "dading",
  "email_user": "dading@gmail.com",
  "nomor_telepon": "0812332313",
  "password": "123456"
}
```

- **POST /user/login** → Login pengguna dengan JWT

Input :

```
{
  "email_user" : "Rizky@gmail.com",
  "password" : "123456"
}
```

Output :

```
{
  "message": "Login berhasil",
  "token": "eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9.eyJpZF91c2VyIjo0LCJuYV1hX3VzZXI0IjSaXpreSIsImVtYVlsX3VzZXI0IjSaXpreU0nbWVpY20iLCJpc19hZG1pbIi6MSw1aWwF0IjoNz4NDU020Tc5LCJleHAiOiJlE3Mzg0NjA1Nz19.Hvk9cxJ7KxQtfs7X9WZE2lz0PcyXwr6ekPIitUp46R8"
}
```

User

- **GET /user/:id** → Melihat profil masing masing user

Input (membuka endpoint) :

`http://localhost:3000/api/user/4`

Output :

```

{
  "status": 200,
  "data": {
    "nama_user": "Rizky",
    "email_user": "Rizky@gmail.com",
    "nomor_telepon": "081234567891",
    "admin": 1,
    "info": "(1) = admin, (0) = user"
  }
}

```

- **PUT /updatedata/:id → Mengedit data pribadi**

Input :

```

1  {
2    "nama_user": "Rizky",
3    "email_user": "Rizky@gmail.com",
4    "nomor_telepon": "081234567891"
5  }

```

Output :

```

1  {
2    "message": "User updated successfully"
3  }

```

- **GET /alluser → Mendapatkan data seluruh user (admin)**

Input (mengakses endpoint) :

`http://localhost:3000/api/allUser`

Output :

```

{
  "id_user": 4,
  "nama_user": "Rizky",
  "email_user": "Rizkyupa@gmail.com",
  "nomor_telepon": "081234567890",
  "is_admin": 1
},
{
  "id_user": 6,
  "nama_user": "salah",
  "email_user": "sa@gmail.com",
  "nomor_telepon": "081231312313",
  "is_admin": 0
},

```

- **DELETE /deletedata** → Menghapus data user (admin)

Input :

```
{
  "id_user" : "7"
}
```

Output :

```
{
  "message": "User deleted successfully"
}
```

Film (Local Database)

- **GET /allmovies** → Melihat daftar film lokal

Input (Mengakses Endpoint) :

<http://localhost:3000/api/allmovies>

Output :

```
[
  {
    "id_movie": 1,
    "title": "Inception",
    "overview": "A mind-bending thriller where dreams are real.",
    "backdrop_path": {
      "type": "Buffer",
      "data": [
        47,
        115,
        51,
        84,
        66,
        114,
        82,
        71,
        66,
        49,
        105,
        97,
        118,
        55,
        103,
        70,
        79,
        67,
        78,
        120,
        51,
        72,
        51,
        49,
        77,
        111,
        69,
        83,
        46,
        106,
        112,
        103
      ]
    },
    "genre": "Laga"
  }
]
```

- **GET /searchlocalmovie** → Melihat daftar film lokal berdasarkan nama

Input (Mengakses Endpoint) :

<http://localhost:3000/api/searchlocalmovie?title=koalakumal> ↵

Output :

```
{
  "movies": [
    {
      "id_movie": 2,
      "title": "Koalakumal",
      "overview": "Novel \"Koala Kumal\" Menceritakan Kompleksi Kehidupan Seorang Pemuda dengan konteks yang lucu",
      "backdrop_path": {
        "type": "Buffer",
        "data": [
          49,
          55,
          51,
          55,
          57,
          56,
          57,
          49,
          49,
          49,
          53,
          56,
          50,
          45,
          107,
          111,
          97,
          108,
          97,
          107,
          117,
          109,
          97,
          108,
          46,
          106,
          112,
          103
        ]
      },
      "genre": "Comedy"
    }
  ]
}
```

- **GET /localgenre** → Mendapatkan detail film lokal berdasarkan genre
Input (Mengakses Endpoint) :


<http://localhost:3000/api/localgenres?genre=Comedy>

Output :

```
{
  "movies": [
    {
      "id_movie": 2,
      "title": "Koalakumal",
      "overview": "Novel \"Koala Kumal\" Menceritakan Kompleksi Kehidupan Seorang Pemuda dengan konteks yang lucu",
      "backdrop_path": {
        "type": "Buffer",
        "data": [
          49,
          55,
          51,
          55,
          57,
          56,
          57,
          49,
          49,
          49,
          53,
          56,
          50,
          45,
          107,
          111,
          97,
          108,
          97,
          107,
          117,
          109,
          97,
          108,
          46,
          106,
          112,
          103
        ]
      },
      "genre": "Comedy"
    }
  ]
}
```

- **POST /localmovies** → Menambahkan film lokal (admin)

Input :

	Key		Value
<input checked="" type="checkbox"/>	title	Text ▾	Cek Toko Sebelah
<input checked="" type="checkbox"/>	overview	Text ▾	Cek Toko Sebelah adalah film drama komedi Indonesia ...
<input checked="" type="checkbox"/>	backdrop	File ▾	 Cek_Toko_Sebelah.jpg
<input checked="" type="checkbox"/>	genre	Text ▾	Comedy

Output :

```
{
  |  "message": "Movie added successfully"
}
```

- **PUT /updatemovie/:id** → Mengedit data film lokal (admin)

Input :

```
{
  |  "title" : "Cek Toko Sebelah",
  |  "overview" : "film ini adalah film drama komedi Indonesia tahun 2016 yang ditulis dan disutradarai oleh Ernest Prakasa. Ide cerita film ini dibuat berdasarkan pada realitas etnis Tionghoa saat anak beranjak dewasa, kuliah yang tinggi, mirisnya ujung-ujungnya bekerja di toko orang tuanya sendiri",
  |  "backdrop_path" : "1738407358444-Cek_Toko_Sebelah"
}
```

Output :

```
{
  |  "message": "movie updated successfully"
}
```

- **DELETE /deletemovie** → Menghapus film lokal (admin)

Input :

```
{
  |  "id_movie" : "6"
}
```

Output :

```
{
  |  "message": "Movie deleted successfully"
}
```

Film (API Publik)

- **GET /movies** → Melihat film dari API eksternal

Input (Mengakses Endpoint) :

<http://localhost:3000/api/movies?query=titanic>

Output :

```
{
  "id": 597,
  "title": "Titanic",
  "overview": "101-year-old Rose DeWitt Bukater tells the story of her life aboard the Titanic, 84 years later. A young Rose boards the ship with her mother and fiancé. Meanwhile, Jack Dawson and Fabrizio De Rossi win third-class tickets aboard the ship. Rose tells the whole story from Titanic's departure through to its death-on its first and last voyage-on April 15, 1912.",
  "backdrop_path": "/sCzcYV9h55Wces0qA12cgEr9Exw.jpg"
},
{
  "id": 16535,
  "title": "Titanic",
  "overview": "Unhappily married, Julia Sturges decides to go to America with her two children on the Titanic. Her husband, Richard also arranges passage on the luxury liner so as to have custody of their two children. All this fades to insignificance once the ship hits an iceberg.",
  "backdrop_path": "/ahbx803wrITvLSjxLyp0Sfky3s.jpg"
},
}
```

- **GET /trending-movies** → Melihat film trending

Input (Mengakses Endpoint) :

http://localhost:3000/api/trending-movies

Output :

```

{"id": 996821,
 "title": "You're Cordially Invited",
 "overview": "When two weddings are accidentally booked on the same day at the same venue, each bridal party is challenged with preserving their family's special moment while making the most of the unanticipated tight quarters. In a hilarious battle of determination and grit, the father of the bride and sister of the other bride chaotically go head-to-head as they stop at nothing to uphold an unforgettable celebration for their loved ones.",
 "backdrop_path": "/xaNBpBk0NtupAVJqQBIW5Eza7xi.jpg"}

{"id": 1241982,
 "title": "Moana 2",
 "overview": "After receiving an unexpected call from her wayfinding ancestors, Moana journeys alongside Maui and a new crew to the far seas of Oceania and into dangerous, long-lost waters for an adventure unlike anything she's ever faced.",
 "backdrop_path": "/vYQt6kb41cF8wwqsMMAULkP90En.jpg"}

```

- **GET /genres** → Melihat daftar genre

Input (mengakses endpoint) :

<http://localhost:3000/api/genres>

Output :

```
{
  {
    "id": 28,
    "name": "Action"
  },
  {
    "id": 12,
    "name": "Adventure"
  },
  {
    "id": 16,
    "name": "Animation"
  },
  {
    "id": 35,
    "name": "Comedy"
  }
}
```

Favorit

- **POST /addlocalfavorites** → Menambahkan film lokal ke favorit
Input (mengakses endpoint) :

<http://localhost:3000/api/addlocalFavorite>

Output :

```
{
  "message": "Movie has been added to your favorites",
  "movie": {
    "title": "koalakumal",
    "overview": "Novel \"Koala Kumal\" Menceritakan Kompleksi Kehidupan Seorang Pemuda dengan konteks yang lucu",
    "backdrop_path": {
      "type": "Buffer",
      "data": [
        49,
        55,
        51,
        55,
        57,
        56,
        57,
        49,
        49,
        49,
        53,
        56,
        50,
        45,
        107,
        111,
        97,
        108,
        97,
        107,
        117,
        109,
        97,
        108,
        46,
        106,
        112,
        103
      ]
    },
    "genre": "Comedy"
  }
}
```

- **GET /favorites-movies** → Melihat daftar lokal favorit
Input (mengakses endpoint):

<http://localhost:3000/api/favorite-movies>

Output :

```
{
  "message": "Favorite movies retrived successfully",
  "movies": [
    {
      "id_movie": 4,
      "title": "target",
      "overview": "Sembilan orang hendak shooting film berjudul TARGET, namun mereka ternyata dijemak di sebuah gedung kosong. Seseorang bernama GAME MASTER muncul, memberitahu dalam 24 jam mereka harus mengikuti permainan-permainan mematikan. Hanya satu yang bisa selamat. Siapa?",
      "backdrop_path": {
        "type": "Buffer",
        "data": [
          92,
          117,
          112,
          108,
          111,
          97,
          108,
          115,
          92,
          49,
          55,
          51,
          56,
          49,
          45,
          84,
          97,
          114,
          103,
          101,
          116,
          95,
          48,
          112,
          111,
          115,
          116,
          101,
          114,
          41,
          46,
          106,
          112,
          103
        ]
      },
      "genre": "Horror, Comedy"
    }
  ]
}
```

- **DELETE /favorites/:movieid** → Menghapus film lokal dari favorit

Input (mengakses endpoint) :

`http://localhost:3000/api/favorites/3`

Output :

```
{
  "message": "Favorite movie removed successfully"
}
```

Ulasan dan Rating

- **POST /reviews** → Menambahkan ulasan dan rating

Input :

```
{
  "id_movie": 2,
  "rating": 4.5,
  "review": "Film ini sangat luar biasa, ceritanya sangat menghibur"
}
```

Output :

```
{
  "message": "Review added successfully"
}
```

- **GET /reviews** → Melihat ulasan suatu film

Input (mengakses endpoint) :

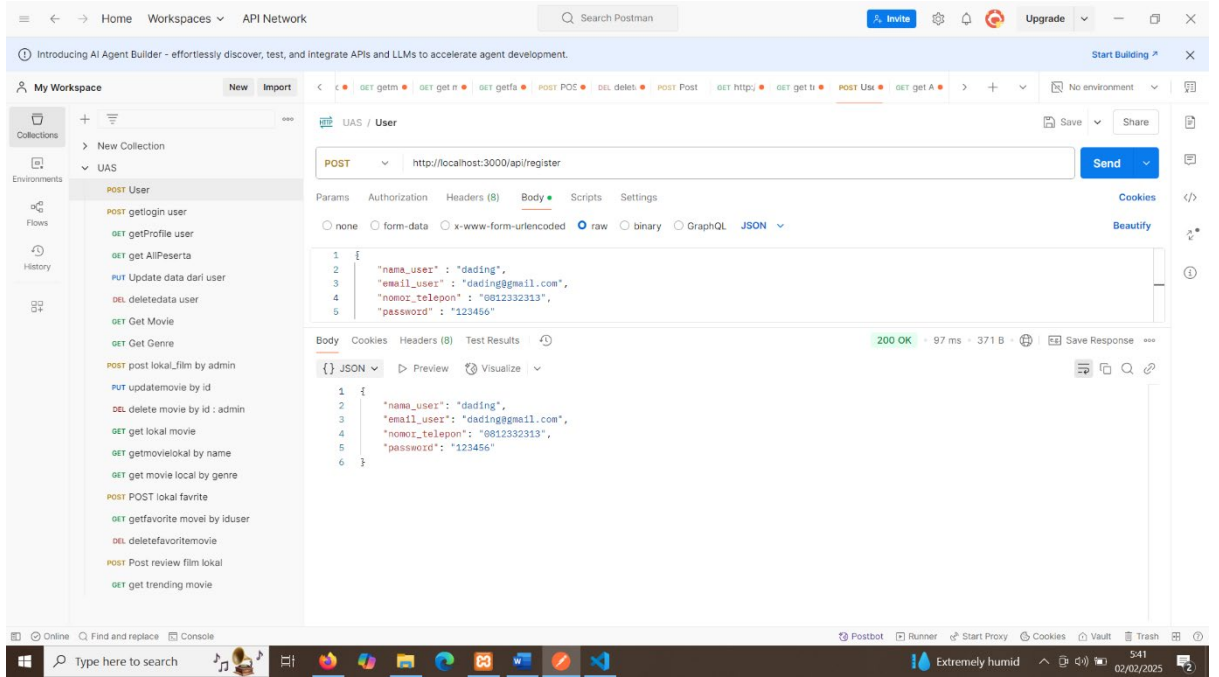
`http://localhost:3000/api/reviews?id_movie=2`

Output :

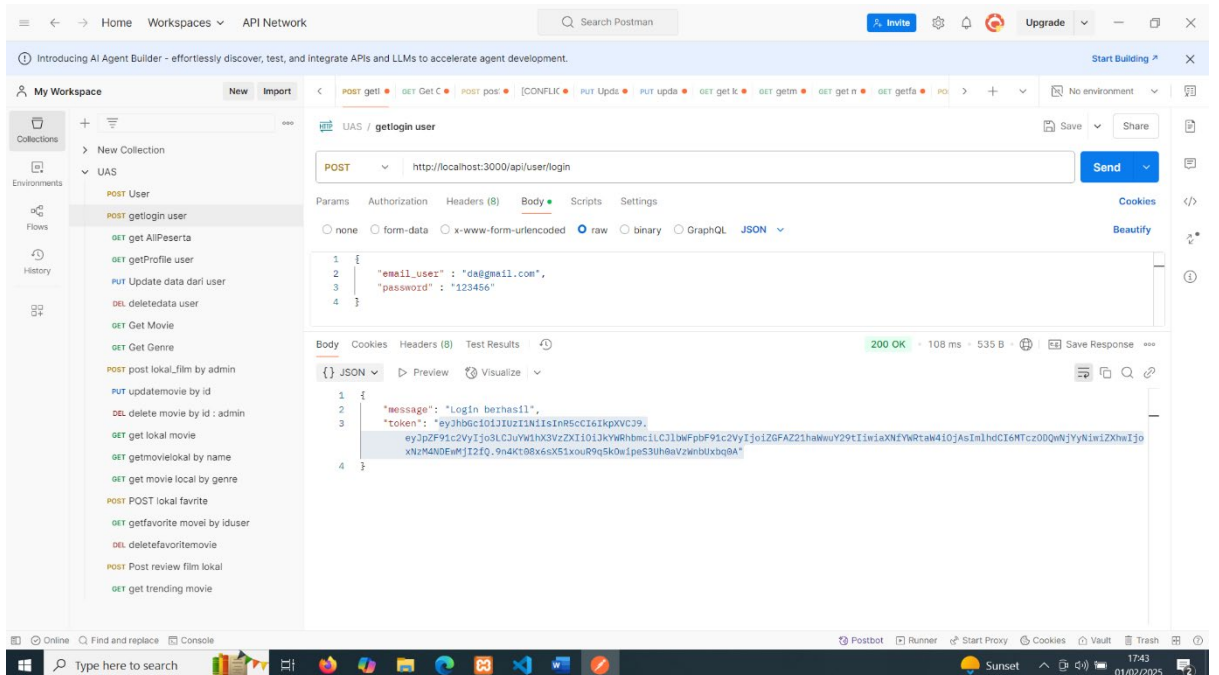
```
{
  "message": "Reviews found",
  "reviews": [
    {
      "id_user": 4,
      "id_movie": 2,
      "rating": "4.5",
      "review": "Film ini sangat luar biasa, ceritanya sangat menghibur",
      "created_at": "2025-02-01T09:33:04.000Z"
    }
  ]
}
```

Pengujian di POSTMAN

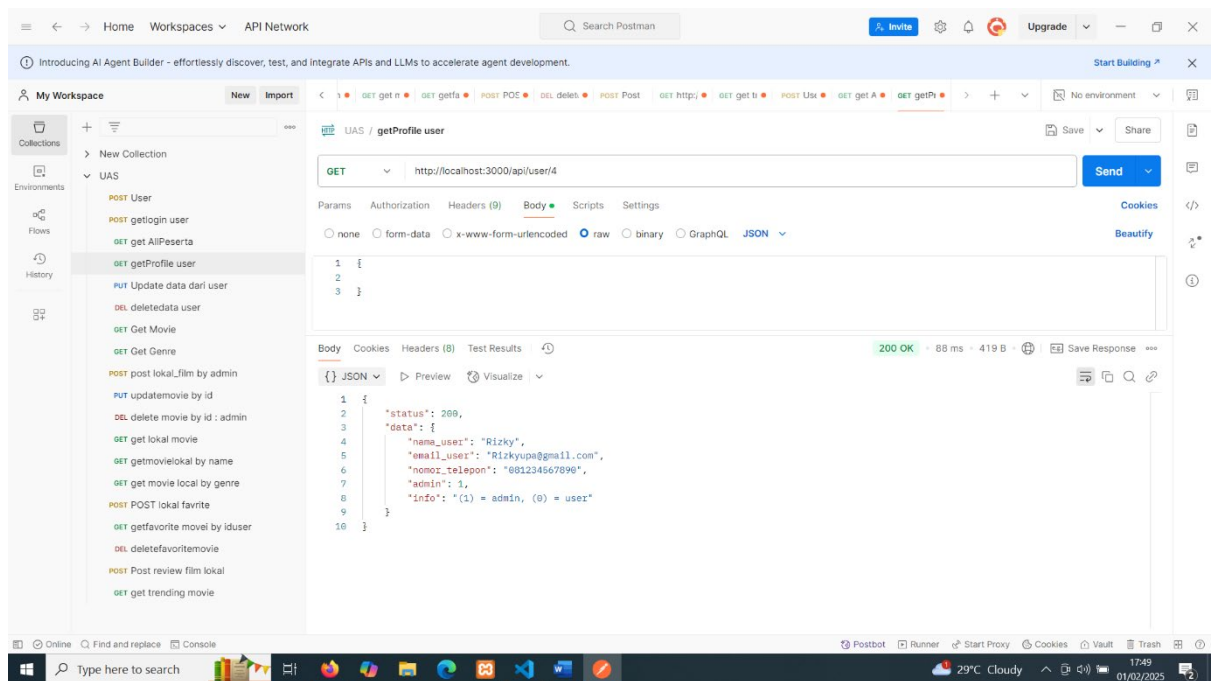
1. **POST /register** → Mendaftarkan pengguna baru



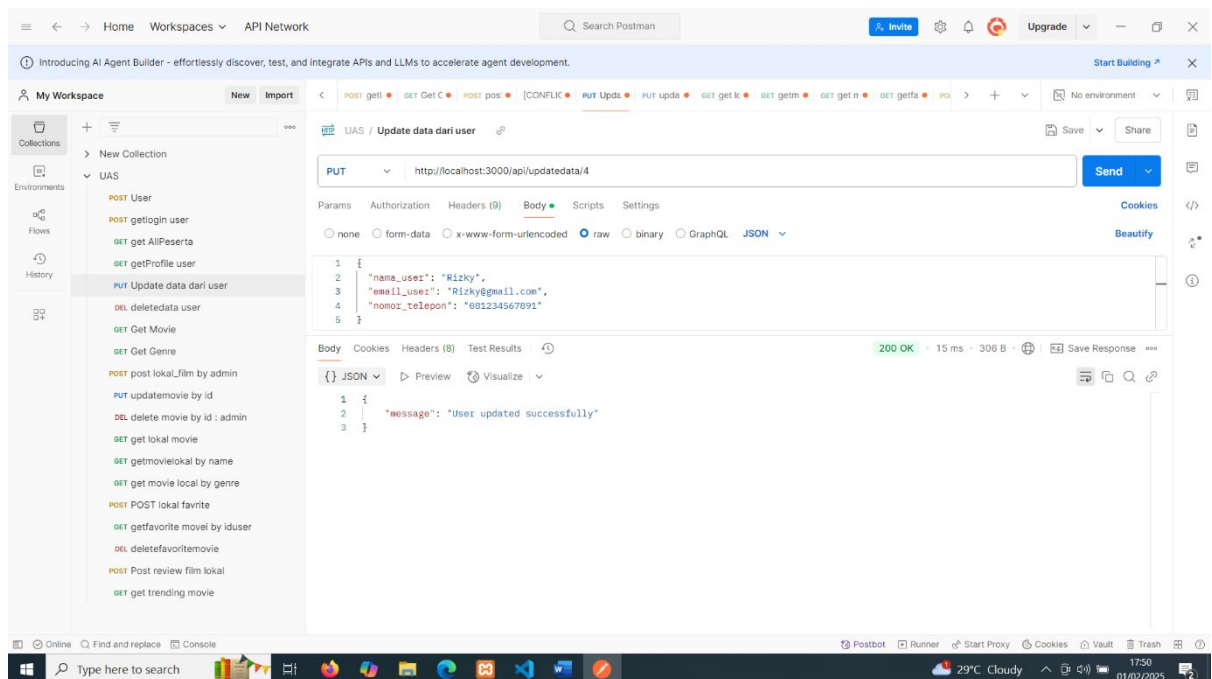
2. POST /user/login → Login pengguna dengan JWT



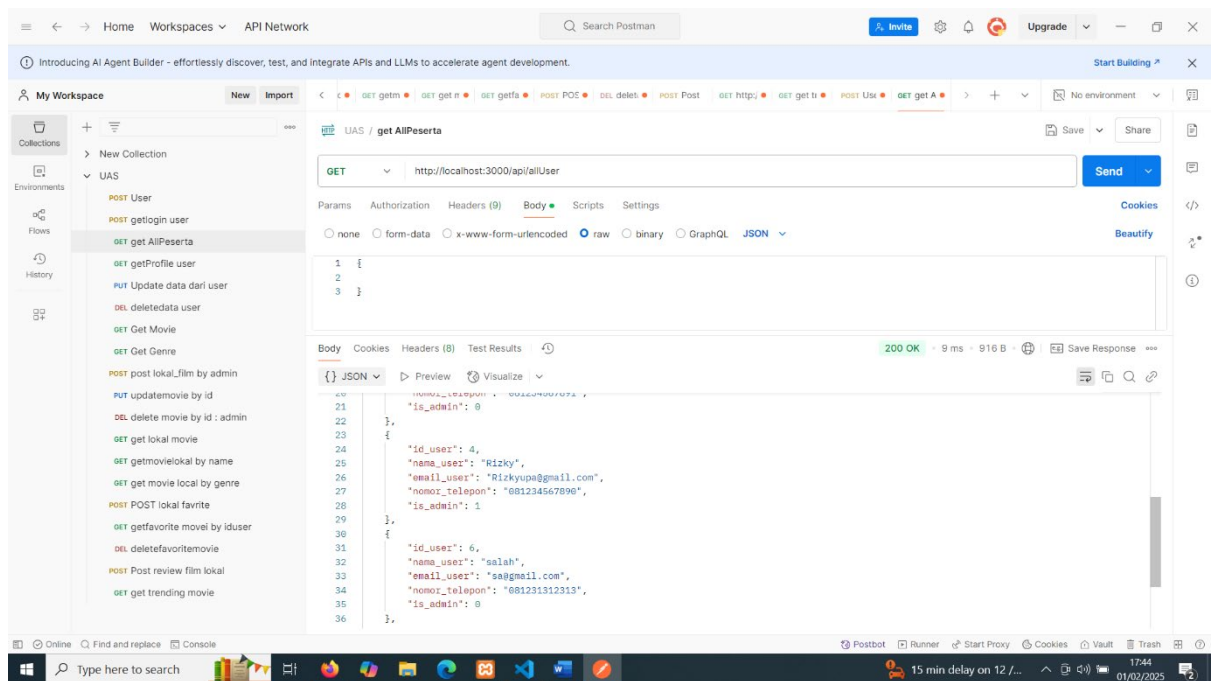
3. GET /user/:id → Melihat profil masing masing user



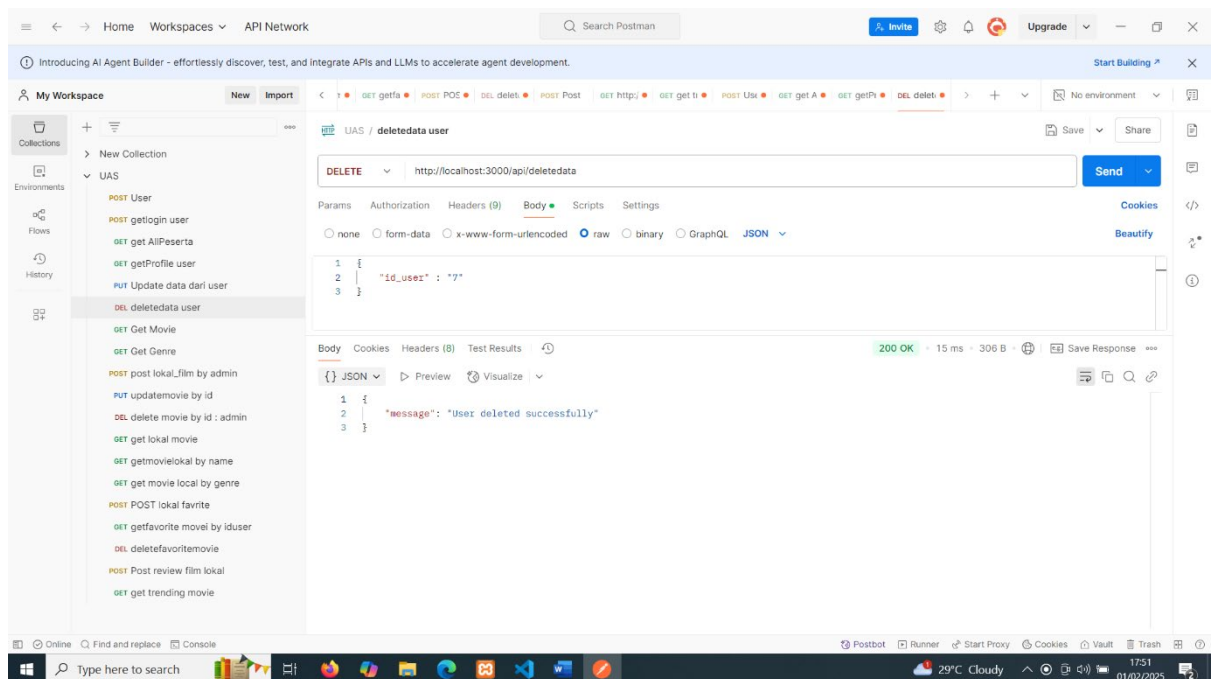
4. PUT /updatedata/:id → Mengedit data pribadi



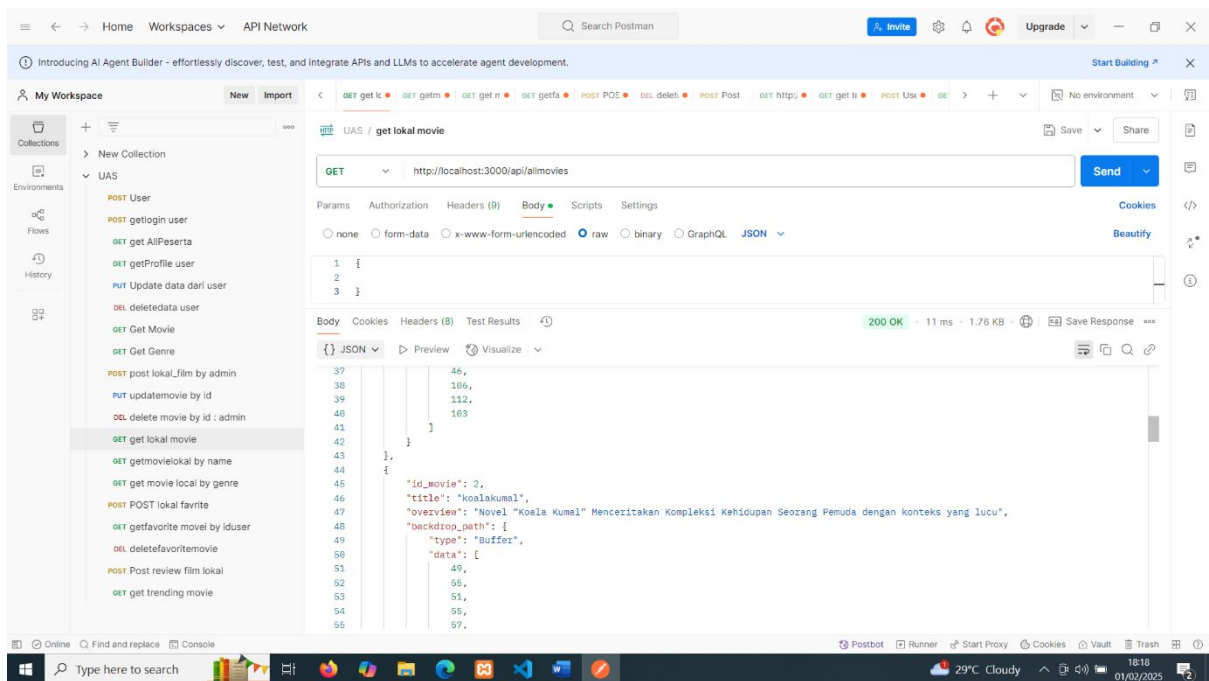
5. GET /alluser → Mendapatkan data seluruh user (admin)



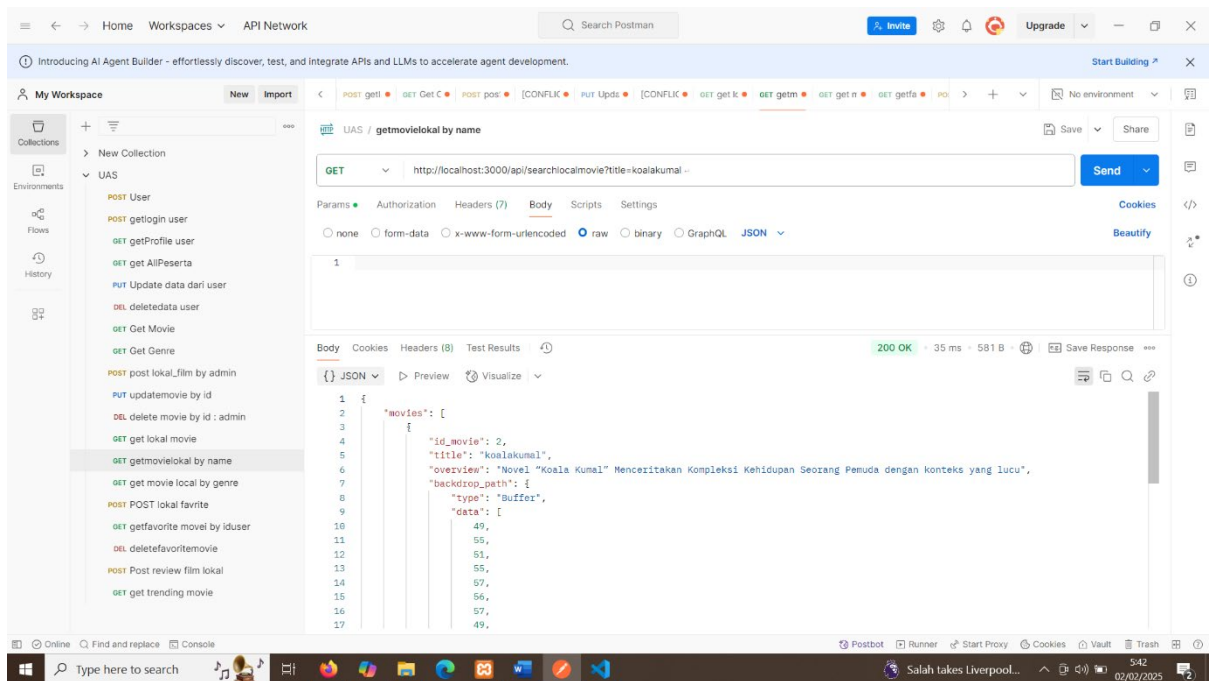
6. DELETE /deletedata → Menghapus data user (admin)



7. GET /allmovies → Melihat daftar film



8. GET /searchlocalmovie → Melihat daftar film berdasarkan nama (local)



9. GET /localgenre → Mendapatkan detail film berdasarkan genre

The screenshot shows the Postman interface with a workspace named 'UAS'. A collection 'UAS' is expanded, showing a list of API endpoints. The endpoint 'GET /localgenre?genre=Comedy' is selected. The request is a GET method to the URL 'http://localhost:3000/api/localgenres?genre=Comedy'. The response is a 200 OK status with a response time of 138 ms and a body of 1.11 KB. The response body is a JSON object:

```
1 {
2   "message": "Movies found",
3   "movies": [
4     {
5       "id_movie": 2,
6       "title": "koalakumal",
7       "overview": "Novel \"Koala Kumal\" Menceritakan Kompleksi Kehidupan Seorang Pemuda dengan konteks yang lucu",
8       "backdrop_path": {
9         "type": "Buffer",
10        "data": [
11          49,
12          55,
13          51,
14          55,
15          57,
16          56,
17          57,

```

10. POST /localmovies → Menambahkan film lokal (admin)

The screenshot shows the Postman interface with a workspace named 'UAS'. A collection 'UAS' is expanded, showing a list of API endpoints. The endpoint 'POST /localmovies' is selected. The request is a POST method to the URL 'http://localhost:3000/api/localmovies'. The request body is a JSON object with the following fields:

Key	Value	Description
title	Cek Toko Sebelah	
overview	Cek Toko Sebelah adalah film drama komedi Indonesia ...	
backdrop	Cek_Toko_Sebelah.jpg	
genre	Comedy	

The response is a 201 Created status with a response time of 41 ms and a body of 310 B. The response body is a JSON object:

```
1 {
2   "message": "Movie added successfully"
3 }
```


11.PUT /updatemovie/:id → Mengedit data film lokal (admin)

The screenshot shows the Postman interface with a PUT request to `http://localhost:3000/api/updatemovie/6`. The request body is a JSON object:

```
1 {
2   "title": "Cek Toko Sebelah",
3   "overview": "film ini adalah film drama komedi Indonesia tahun 2016 yang ditulis dan disutradarai oleh Ernest Prakasa. Ide cerita film ini dibuat berdasarkan pada realitas etnis Tionghoa saat anak beranjak dewasa, kuliah yang tinggi, mirisnya ujung-ujungnya bekerja di toko orang tuanya sendiri",
4   "backdrop_path": "1738487358444-Cek_Toko_Sebelah"
5 }
```

The response is a 200 OK status with a JSON body:

```
1 {
2   "message": "movie updated successfully"
3 }
```

12.DELETE /deletemovie → Menghapus film lokal (admin)

The screenshot shows the Postman interface with a DELETE request to `http://localhost:3000/api/deletemovie`. The request body is a JSON object:

```
1 {
2   "id_movie": "6"
3 }
```

The response is a 200 OK status with a JSON body:

```
1 {
2   "message": "Movie deleted successfully"
3 }
```

13.GET /movies → Melihat film dari API eksternal

The screenshot shows the Postman interface with a workspace named 'UAS'. A collection 'UAS' is expanded, showing a list of requests. The 'GET Get Movie' request is selected. The request details are as follows:

- Method: GET
- URL: `http://localhost:3000/api/movies?query=titanic`
- Headers: 6 hidden
- Body: JSON
- Status: 200 OK
- Time: 403 ms
- Size: 8.52 KB

The response body is a JSON array of movie objects. The first object is for the movie 'Titanic'.

```
1 [
2   {
3     "id": 597,
4     "title": "Titanic",
5     "overview": "101-year-old Rose DeWitt Bukater tells the story of her life aboard the Titanic, 84 years later. A young Rose boards the ship with her mother and fianc\u00e9. Meanwhile, Jack Dawson and Fabrizio De Rossi win third-class tickets aboard the ship. Rose tells the whole story from Titanic's departure through to its death-on its first and last voyage-on April 15, 1912.",
6     "backdrop_path": "/sCzcYw9h5Swces0qA12cGEr9Xkw.jpg"
7   },
8   {
9     "id": 16535,
10    "title": "Titanic",
11    "overview": "Unhappily married, Julia Sturges decides to go to America with her two children on the Titanic. Her husband, Richard also arranges passage on the luxury liner so as to have custody of their two children. All this fades to insignificance once the ship hits an iceberg.",
12    "backdrop_path": "/ahbx863wzITV15jXlyp65fky3s.jpg"
13  }
]
```

14.GET /trending-movies → Melihat film trending (API)

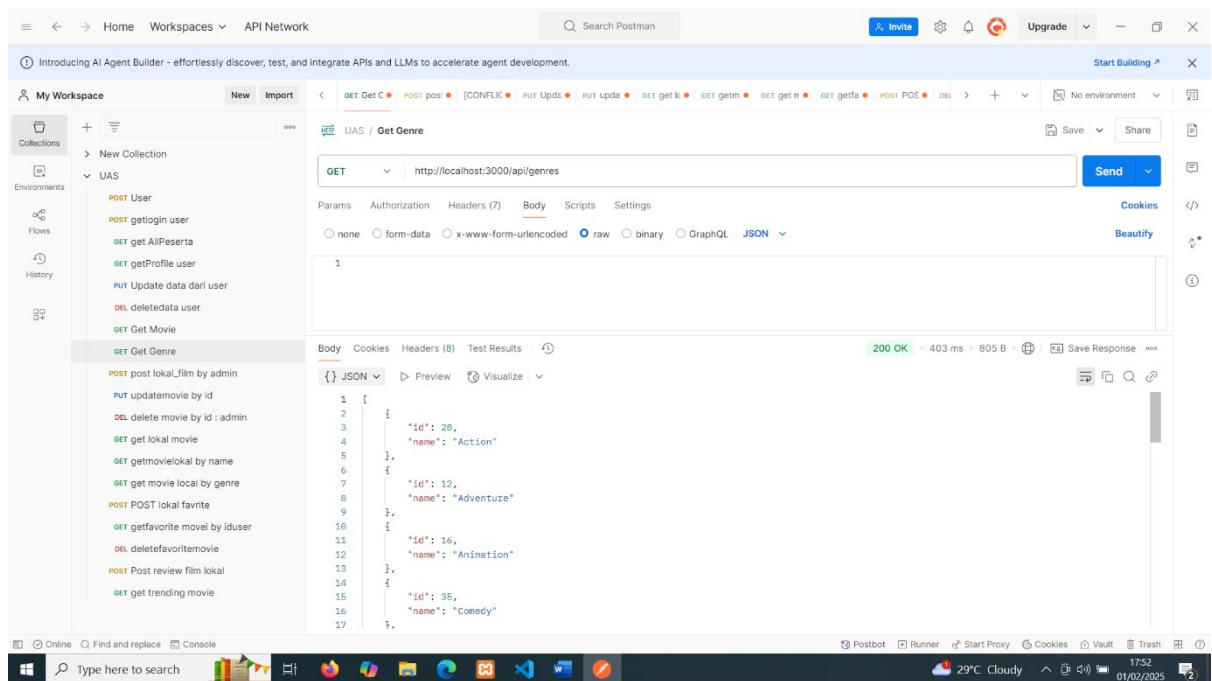
The screenshot shows the Postman interface with a workspace named 'UAS'. A collection 'UAS' is expanded, showing a list of requests. The 'GET trending movie' request is selected. The request details are as follows:

- Method: GET
- URL: `http://localhost:3000/api/trending-movies`
- Headers: 7
- Body: none
- Status: 200 OK
- Time: 800 ms
- Size: 7.23 KB

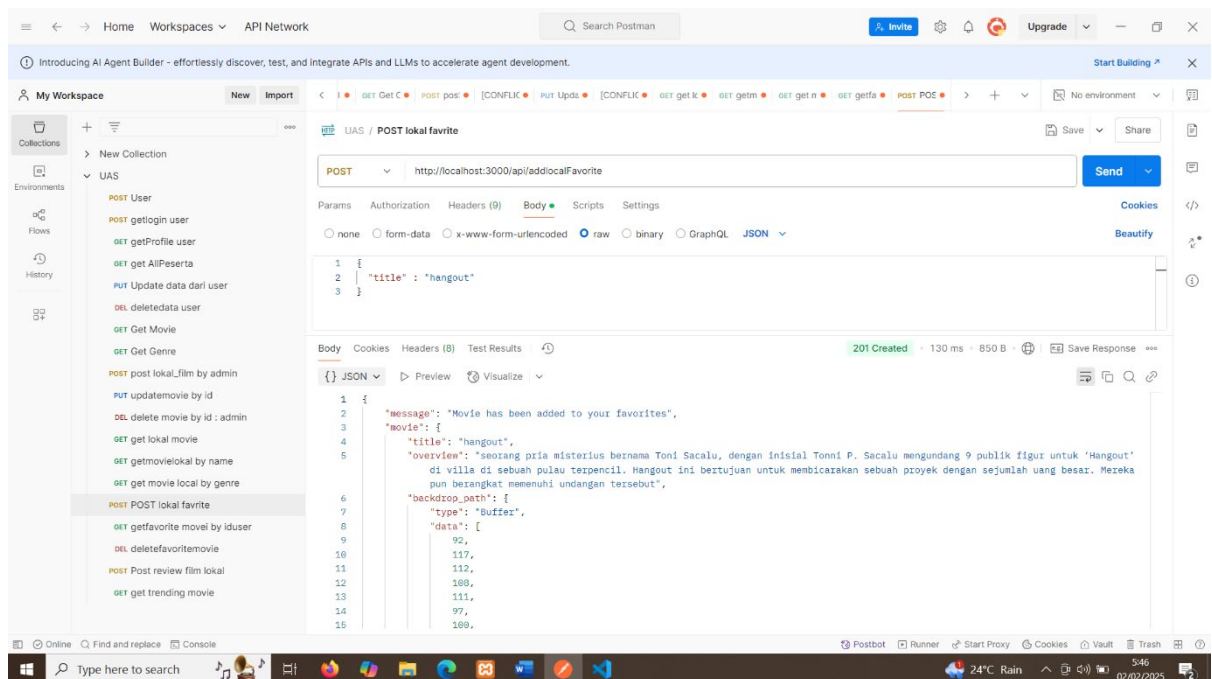
The response body is a JSON array of movie objects. The first object is for the movie 'You're Cordially Invited'.

```
1 [
2   {
3     "id": 996821,
4     "title": "You're Cordially Invited",
5     "overview": "When two weddings are accidentally booked on the same day at the same venue, each bridal party is challenged with preserving their family's special moment while making the most of the unanticipated tight quarters. In a hilarious battle of determination and grit, the father of the bride and sister of the other bride chaotically go head-to-head as they stop at nothing to uphold an unforgettable celebration for their loved ones.",
6     "backdrop_path": "/xANBp8k0NtupAVJqQBtMS5E2a7xi.jpg"
7   },
8   {
9     "id": 1241982,
10    "title": "Moana 2",
11    "overview": "After receiving an unexpected call from her wayfinding ancestors, Moana journeys alongside Maui and a new crew to the far seas of Oceania and into dangerous, long-lost waters for an adventure unlike anything she's ever faced.",
12    "backdrop_path": "/VYqtkb41cF8wqgMMaulkP9oEN.jpg"
13  }
]
```

15.GET /genres → Melihat daftar genre



16.POST /addlocalfavorites → Menambahkan film lokal ke favorit



17. GET /favorites-movies → Melihat daftar favorit

The screenshot shows the Postman interface with a workspace named 'UAS'. The selected collection is 'UAS' and the environment is 'No environment'. The request is a GET method to the URL 'http://localhost:3000/api/favorites-movies'. The response is a 200 OK status with a response time of 12 ms and a body size of 1.35 KB. The response body is a JSON object:

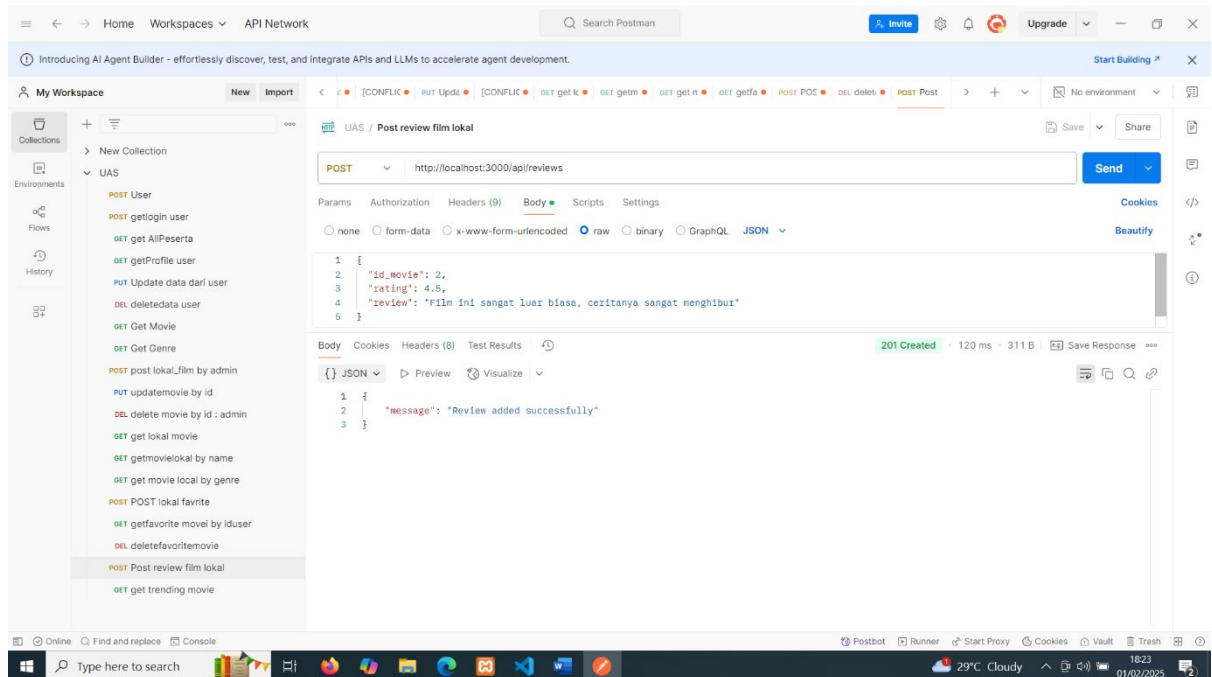
```
1 {
2   "message": "Favorite movies retrieved successfully",
3   "movies": [
4     {
5       "id_movie": 3,
6       "title": "hangout",
7       "overview": "seorang pria misterius bernama Toni Sacalu, dengan inisial Tomni P. Sacalu mengundang 9 publik figur untuk 'Hangout' di villa di sebuah pulau terpencil. Hangout ini bertujuan untuk membicarakan sebuah proyek dengan sejumlah uang besar. Mereka pun berangkat memenuhi undangan tersebut",
8       "backdrop_path": {
9         "type": "Buffer",
10        "data": [
11          92,
12          117,
13          112,
14          108,
15          111.
16        ]
17      }
18    }
19  ]
20 }
```

18.DELETE /favorites/:movieid → Menghapus film lokal dari favorit

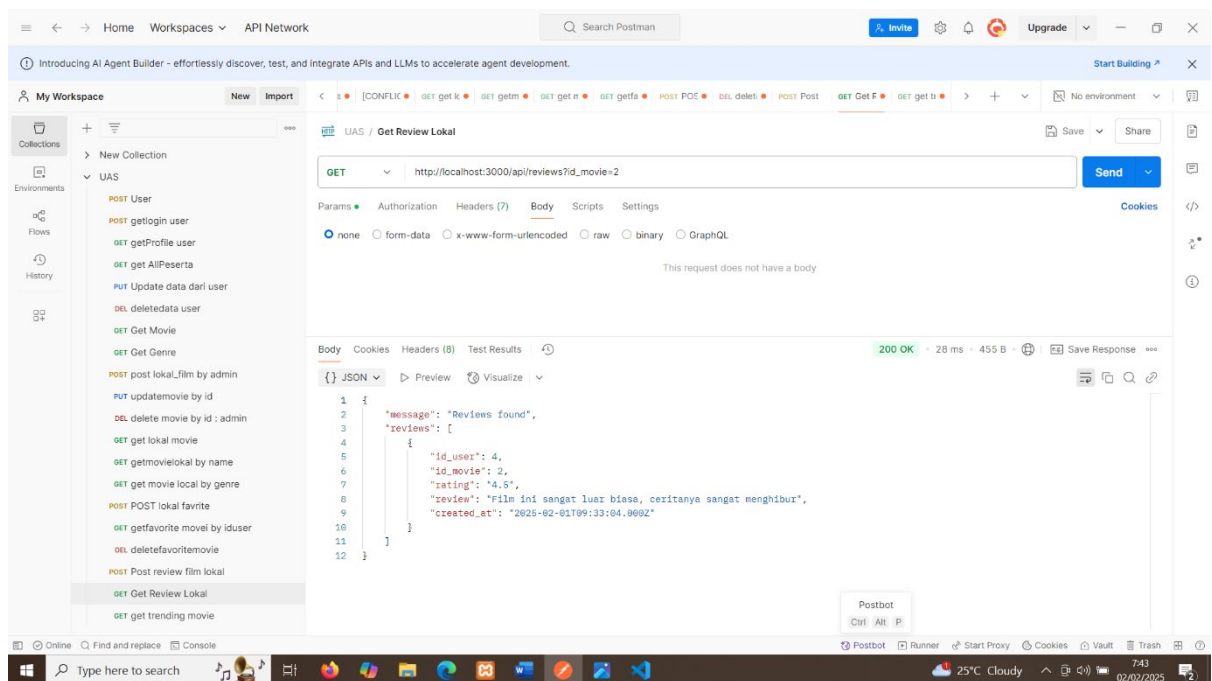
The screenshot shows the Postman interface with a workspace named 'UAS'. The selected collection is 'UAS' and the environment is 'No environment'. The request is a DELETE method to the URL 'http://localhost:3000/api/favorites/3'. The response is a 200 OK status with a response time of 12 ms and a body size of 316 B. The response body is a JSON object:

```
1 {
2   "message": "Favorite movie removed successfully"
3 }
```

19. POST /reviews → Menambahkan ulasan dan rating



20. GET /reviews → Melihat ulasan suatu film



Middleware dan Keamanan

- Menggunakan **JWT (JSON Web Token)** untuk autentikasi pengguna.
- Middleware untuk validasi input dan proteksi endpoint.

Kesimpulan

REST API ini telah dikembangkan sesuai spesifikasi dengan fitur-fitur utama:

- ✓ Autentikasi dan manajemen user.
- ✓ Pengelolaan film dari database lokal dan API eksternal.
- ✓ Fitur favorit, ulasan, dan rating.
- ✓ Keamanan dengan JWT.
- ✓ Pengujian menggunakan Postman.

Laporan ini diharapkan memberikan gambaran lengkap tentang sistem yang telah dikembangkan.

LINK GITHUB :

<https://github.com/MRizkyMaulana9/MOVIES>