Backend Assessment Task: Movie Explorer Application

Objective:

Build a backend application – using **TMDB (The Movie Database) API**.

Time: 2 hours.

Wifi Name/Password: LiveInTechAir/FlyTech123456!

Requirements

- Use TMDB API (https://developer.themoviedb.org/reference/intro/getting-started) (requires an API Key, create an account to get the key). Use any relational database for data persistence.
- Create your own account on TMBD to use their APIs. If you face issues while creating your account, use the following:
  - **API Key**: eec8ca18da6c9523e3f50a8c6f69c633
  - **Access token**:
    eyJhbGciOiJIUzI1NiJ9.eyJhdWQiOiJlZWM4Y2ExOGRhNmM5NTIzZTNmNTBhO
    GM2ZjY5YzYzMyIsIm5iZiI6MTcyNTUzNDE4OC40OC40MzYsInN1YiI6IjY2ZDk4ZmVjY
    TllZmM3Zjc2ZTTkyODJiMiIsInNjb3Blcyl6WyJhcGlfcmVhZCJdLCJ2ZXJzaW9uIjoxf
    Q.D1Fp74OtEjAV6He4Beqp5CYiz9RIKg6aa3HHsFpDJGU
- **Your application should have fallbacks if the api calls to TMDB fails. Use the provided values in case API calls to TMDB fails.**

- Use the discover movie api (https://developer.themoviedb.org/reference/discover-movie) to obtain 500 entries.

- For each movie entry call the movie details api (https://developer.themoviedb.org/reference/movie-details) to get details about each of the 500 movies. Create a Genres table to store different genres.

- For each movie entry call the credit details api (https://developer.themoviedb.org/reference/movie-credits) to get the cast and crew

information. Create a table to store cast details. (Not the crew details)

- Make sure genre and cast information are linked with their movies.

- Create a paginated get api which gives movie lists which supports following filters:
  - year
  - genres
  - without_genres
  - sort by ascending or descending - popularity, vote_average, vote_count, release_date, revenue, title
  - search - title, cast

Technical Constraints

- Any backend framework or language may be used.

- A **relational database** must be used (e.g., PostgreSQL, MySQL).

- Open-source libraries may be used to assist with validation, api calls, etc.

Evaluation Criteria

- Functionality

- System stability

- System responsiveness

- Error Handling

- Code readability and structure

- Data Validation

- **Bonus**: User authentication management (e.g., JWT-based)

Fallback JSON

Discover

```
{
  "dates": {
    "maximum": "2025-04-16",
    "minimum": "2025-03-05"
  },
  "page": 1,
  "results": [
    {
      "adult": false,
      "backdrop_path": "/2Nti3gYAX513wvhp8IiLL6ZDyOm.jpg",
      "genre_ids": [
        10751,
        35,
        12,
        14
      ],
      "id": 950387,
      "original_language": "en",
      "original_title": "A Minecraft Movie",
      "overview": "Four misfits find themselves struggling with ordinary
problems when they are suddenly pulled through a mysterious portal into the
Overworld: a bizarre, cubic wonderland that thrives on imagination. To get
back home, they'll have to master this world while embarking on a magical
quest with an unexpected, expert crafter, Steve.",
      "popularity": 824.7134,
      "poster_path": "/iPPTGh2OXuIv6d7cwuoPkw8govp.jpg",
      "release_date": "2025-03-31",
      "title": "A Minecraft Movie",
      "video": false,
      "vote_average": 6.1,
      "vote_count": 482
    },
    {
      "adult": false,
      "backdrop_path": "/op3qmNhvwEvyT7UFyPbIfQmKriB.jpg",
      "genre_ids": [
        14,
        12,
```

```
        28
      ],
      "id": 324544,
      "original_language": "en",
      "original_title": "In the Lost Lands",
      "overview": "A queen sends the powerful and feared sorceress Gray
Alys to the ghostly wilderness of the Lost Lands in search of a magical
power, where the sorceress and her guide, the drifter Boyce must outwit and
outfight man and demon.",
      "popularity": 873.5678,
      "poster_path": "/iHf6bXPghWB6gT8kFkL1zo00x6X.jpg",
      "release_date": "2025-02-27",
      "title": "In the Lost Lands",
      "video": false,
      "vote_average": 5.926,
      "vote_count": 101
    },
],
  "total_pages": 49754,
  "total_results": 995075
}
```

Movie Details

```
[
  {
    "adult": false,
    "backdrop_path": "/2Nti3gYAX513wvhp8IiLL6ZDyOm.jpg",
    "belongs_to_collection": {
      "id": 1461530,
      "name": "The Minecraft Movie Collection",
      "poster_path": "/8jMQ2sVZ1RRiYSpcb7Yommo7V4r.jpg",
      "backdrop_path": "/48TbIdb60bjLvVhj6W71YNvDM2p.jpg"
    },
    "budget": 150000000,
    "genres": [
      {
        "id": 10751,
        "name": "Family"
      },
      {
        "id": 35,
        "name": "Comedy"
      },
      {
        "id": 12,
        "name": "Adventure"
      },
      {
        "id": 14,
        "name": "Fantasy"
      }
    ],
    "homepage": "https://www.minecraft-movie.com",
    "id": 950387,
    "imdb_id": "tt3566834",
    "origin_country": [
      "US"
    ],
    "original_language": "en",
    "original_title": "A Minecraft Movie",
    "overview": "Four misfits find themselves struggling with ordinary
problems when they are suddenly pulled through a mysterious portal into the
```

Overworld: a bizarre, cubic wonderland that thrives on imagination. To get
back home, they'll have to master this world while embarking on a magical
quest with an unexpected, expert crafter, Steve.",
  "popularity": 699.0444,
  "poster_path": "/yFHHfHcUgGAxziP1C3lLt0q2T4s.jpg",
  "production_companies": [
    {
      "id": 174,
      "logo_path": "/zhD3hhtKB5qyv7ZeL4uLpNxgMVU.png",
      "name": "Warner Bros. Pictures",
      "origin_country": "US"
    },
    {
      "id": 923,
      "logo_path": "/5UQsZrfbfG2dYJbx8DxfoTr2Bvu.png",
      "name": "Legendary Pictures",
      "origin_country": "US"
    },
    {
      "id": 110691,
      "logo_path": "/i0D9b0veZbValgEFiJjSd0mbb9C.png",
      "name": "Mojang Studios",
      "origin_country": "SE"
    },
    {
      "id": 829,
      "logo_path": "/aXqwCvJSCDbTclkxAYfsT1l4Dsa.png",
      "name": "Vertigo Entertainment",
      "origin_country": "US"
    },
    {
      "id": 159602,
      "logo_path": "/e3KodIPxOSC6xpzgIBISB4COQcu.png",
      "name": "On the Roam",
      "origin_country": "US"
    },
    {
      "id": 216687,
      "logo_path": "/kKVYqekveOvLK1IgqdJojLjQvtu.png",
      "name": "Domain Entertainment",
      "origin_country": "US"
    }
  ],

      "production_countries": [
        {
          "iso_3166_1": "SE",
          "name": "Sweden"
        },
        {
          "iso_3166_1": "US",
          "name": "United States of America"
        }
      ],
      "release_date": "2025-03-31",
      "revenue": 552664857,
      "runtime": 101,
      "spoken_languages": [
        {
          "english_name": "English",
          "iso_639_1": "en",
          "name": "English"
        }
      ],
      "status": "Released",
      "tagline": "Be there and be square.",
      "title": "A Minecraft Movie",
      "video": false,
      "vote_average": 6.08,
      "vote_count": 528
    },
    {
      "adult": false,
      "backdrop_path": "/op3qmNhvwEvyT7UFyPbIfQmKriB.jpg",
      "belongs_to_collection": null,
      "budget": 55000000,
      "genres": [
        {
          "id": 14,
          "name": "Fantasy"
        },
        {
          "id": 12,
          "name": "Adventure"
        },
        {
          "id": 28,

```
      "name": "Action"
    }
  ],
  "homepage": "https://inthelostlands.com",
  "id": 324544,
  "imdb_id": "tt4419684",
  "origin_country": [
    "DE",
    "CH"
  ],
  "original_language": "en",
  "original_title": "In the Lost Lands",
  "overview": "A queen sends the powerful and feared sorceress Gray Alys to
the ghostly wilderness of the Lost Lands in search of a magical power,
where the sorceress and her guide, the drifter Boyce must outwit and
outfight man and demon.",
  "popularity": 789.8905,
  "poster_path": "/iHf6bXPghWB6gT8kFkL1zo00x6X.jpg",
  "production_companies": [
    {
      "id": 47,
      "logo_path": "/i7Z9ot2o3N5Sa3HrF09kniFs2y8.png",
      "name": "Constantin Film",
      "origin_country": "DE"
    },
    {
      "id": 187303,
      "logo_path": "/5CJA1Ej3gJxosjkzz2T7AeLw1SQ.png",
      "name": "Spark Productions",
      "origin_country": "CH"
    }
  ],
  "production_countries": [
    {
      "iso_3166_1": "DE",
      "name": "Germany"
    },
    {
      "iso_3166_1": "CH",
      "name": "Switzerland"
    }
  ],
  "release_date": "2025-02-27",
```

```json
    "revenue": 4755330,
    "runtime": 102,
    "spoken_languages": [
      {
        "english_name": "German",
        "iso_639_1": "de",
        "name": "Deutsch"
      },
      {
        "english_name": "English",
        "iso_639_1": "en",
        "name": "English"
      }
    ],
    "status": "Released",
    "tagline": "She seeks the power to free her people.",
    "title": "In the Lost Lands",
    "video": false,
    "vote_average": 6.398,
    "vote_count": 157
  }
]
```

Cast and Crew

```json
[
{
  "id": 950387,
  "cast": [
    {
      "adult": false,
      "gender": 2,
      "id": 117642,
      "known_for_department": "Acting",
      "name": "Jason Momoa",
      "original_name": "Jason Momoa",
      "popularity": 18.2497,
      "profile_path": "/6dEFBpZH8C8OijsynkSajQT99Pb.jpg",
      "cast_id": 10,
      "character": "Garrett",
      "credit_id": "625db715d266a23317987f90",
      "order": 0
    },
    {
      "adult": false,
      "gender": 2,
      "id": 70851,
      "known_for_department": "Acting",
      "name": "Jack Black",
      "original_name": "Jack Black",
      "popularity": 12.3774,
      "profile_path": "/9QKdFKfc3Zi5XwnQHrFukFMpo5o.jpg",
      "cast_id": 26,
      "character": "Steve",
      "credit_id": "65945eb92f8d09093937e312",
      "order": 1
    },
    {
      "adult": false,
      "gender": 2,
      "id": 2680307,
      "known_for_department": "Acting",
      "name": "Sebastian Eugene Hansen",
      "original_name": "Sebastian Eugene Hansen",
      "popularity": 17.4486,
```

```
        "profile_path": "/40HNkoB3RKPMPgLhTyKQU6kG0sc.jpg",
        "cast_id": 24,
        "character": "Henry",
        "credit_id": "65692d2e63536a011bde6ee0",
        "order": 2
    },
    {
        "adult": false,
        "gender": 1,
        "id": 2604515,
        "known_for_department": "Acting",
        "name": "Emma Myers",
        "original_name": "Emma Myers",
        "popularity": 17.5131,
        "profile_path": "/xBJsFGAL3sOIxMUA0sMVEKKpAL4.jpg",
        "cast_id": 25,
        "character": "Natalie",
        "credit_id": "65711eaeb04605013a3730f0",
        "order": 3
    },
    {
        "adult": false,
        "gender": 1,
        "id": 1075037,
        "known_for_department": "Acting",
        "name": "Danielle Brooks",
        "original_name": "Danielle Brooks",
        "popularity": 3.1142,
        "profile_path": "/dEonf59ukDW8LaN7vwj8WMmXrXf.jpg",
        "cast_id": 23,
        "character": "Dawn",
        "credit_id": "65692978d04d1a010d636db6",
        "order": 4
    },
]
},
{
  "id": 324544,
  "cast": [
    {
        "adult": false,
        "gender": 1,
        "id": 63,
```

```json
      "known_for_department": "Acting",
      "name": "Milla Jovovich",
      "original_name": "Milla Jovovich",
      "popularity": 5.4055,
      "profile_path": "/usWnHCzbADijULREZYSJ0qfM00y.jpg",
      "cast_id": 9,
      "character": "Gray Alys",
      "credit_id": "6037edb8b76cbb0040cc79e9",
      "order": 0
    },
    {
      "adult": false,
      "gender": 2,
      "id": 543530,
      "known_for_department": "Acting",
      "name": "Dave Bautista",
      "original_name": "Dave Bautista",
      "popularity": 4.0669,
      "profile_path": "/snk6JiXOOoRjPtHU5VMoy6qbd32.jpg",
      "cast_id": 10,
      "character": "Boyce",
      "credit_id": "6037edc787a27a003d149e78",
      "order": 1
    },
    {
      "adult": false,
      "gender": 1,
      "id": 66147,
      "known_for_department": "Acting",
      "name": "Arly Jover",
      "original_name": "Arly Jover",
      "popularity": 0.416,
      "profile_path": "/zmznPrQ9GSZwcOIUT0c3GyETwrP.jpg",
      "cast_id": 11,
      "character": "Ash",
      "credit_id": "63cb8611cee4810084d3d370",
      "order": 2
    },
    {
      "adult": false,
      "gender": 1,
      "id": 3883680,
      "known_for_department": "Acting",
```

```json
      "name": "Amara Okereke",
      "original_name": "Amara Okereke",
      "popularity": 0.4198,
      "profile_path": "/nTSPtzWu6deZTJtWXHUpACVznY4.jpg",
      "cast_id": 12,
      "character": "Melange",
      "credit_id": "63cb861d6d97e60081fea1fc",
      "order": 3
    },
    {
      "adult": false,
      "gender": 2,
      "id": 30087,
      "known_for_department": "Acting",
      "name": "Fraser James",
      "original_name": "Fraser James",
      "popularity": 1.7641,
      "profile_path": "/mGAPQG2OKTgdKFkp9YpvCSqcbgY.jpg",
      "cast_id": 47,
      "character": "Patriarch Johan",
      "credit_id": "67b356fcaaac3b1674e0eabb",
      "order": 4
    },
]
}
]
```