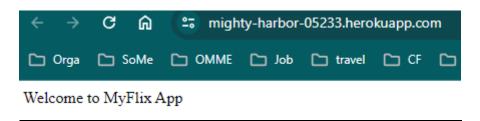# Backend – Achievement 2 – Server-Side Programming & Node.js

1) Description of the project

- o What was my role for this project and what tasks did I face?
    - o Building the server-side component of a "movies" web application that provides users with access to information about different movies and makes it possible for users to sign up, update their personal information and create a list of their favourite movies
    - o Feature requirements:
        - return a list of ALL movies to the user,
        - return data (description, genre, director, image URL, whether it's featured or not) about a single movie by title to the user,
        - return data about a genre (description) by name/title (e.g., "Thriller"),
        - return data about a director (bio, birth year, death year) by name,
        - allow new users to register,
        - allow users to update their user info (username, password, email, date of birth),
        - allow users to add a movie to their list of favourites,
        - allow users to remove a movie from their list of favourites,
        - allow existing users to deregister

- o Lessons I learned / decisions I made during this project
    - o setting up my project directory,
    - o practicing writing Node.js syntax,
    - o creating a "package.json" file,
    - o importing all necessary packages into project directory,
    - o defining my project dependencies,
    - o routing HTTP requests for my project using Express,
    - o defining the endpoints for my REST API,
    - o creating a relational (SQL) database for storing movie data using PostgreSQL,
    - o recreating my relational (SQL) database as a non-relational (NoSQL) database using MongoDB,
    - o modeling my business logic using Mongoose,
    - o implementing authentication and authorisation into my API using basic HTTP, authentication and JWT (token-based) authentication,
    - o incorporating data validation logic into my API,
    - o implementing data security and storage controls,
    - o hosting my project on the web using Heroku,

2) A screenshot to represent the project

```
myFlixDB> db.movies.find().pretty()
[
  {
    _id: ObjectId("63a43b9230ae3b6a4699eccf"),
    Title: 'Silence of the Lambs',
    Description: 'A young FBI cadet must receive the help of an incarcerated and manipulative cannibal killer.',
    Genre: {
      Name: 'Thriller',
      Description: 'Thriller film, also known as suspense film or suspense thriller, is a broad film genre that involves excitement and suspense in the audience.'
    },
    Director: {
      Name: 'Jonathan Demme',
      Bio: 'Robert Jonathan Demme was an American director, producer, and screenwriter.',
      Birth: '1944',
      Death: '2017'
    },
    ImagePath: 'silenceofthelambs.png',
    Featured: true
  },
  {
    _id: ObjectId("63a47c5f30ae3b6a4699ecd0"),
    Title: 'The Lion King',
    Description: 'This Disney animated feature follows the adventures of the young lion Simba.',
    Genre: {
      Name: 'Animated',
      Description: 'Animation is a method in which pictures are manipulated to appear as moving images. In traditional animation, images are drawn or painted by hand on transparent celluloid sheets to be photographed and exhibited on film.'
    },
    Director: {
      Name: 'Rob Minkoff',
      Bio: 'Robert Ralph Minkoff is an American filmmaker.',
      Birth: '1962'
    },
    ImagePath: 'https://www.imdb.com/title/tt0110357/mediaviewer/rm3169350912/?ref_=tt_ov_i',
    Featured: false
  },
```

```
  {
    _id: ObjectId("63a47c8f30ae3b6a4699ecd1"),
    Title: 'Stuart Little',
    Description: 'When the Littles go to an orphanage to adopt a new family member, a charming young mouse named Stuart is chosen.',
    Genre: {
      Name: 'Comedy',
      Description: 'Comedy is a genre of film in which the main emphasis is on humor. These films are designed to make the audience laugh through amusement and most often work by exaggerating characteristics for humorous effect.'
    },
    Director: {
      Name: 'Rob Minkoff',
      Bio: 'Robert Ralph Minkoff is an American filmmaker.',
      Birth: '1962'
    },
    ImagePath: 'https://www.imdb.com/title/tt0164912/mediaviewer/rm2978165504/?ref_=tt_ov_i',
    Featured: true
  },
  {
    _id: ObjectId("63a47ce830ae3b6a4699ecd2"),
    Title: 'Knocked Up',
    Description: "Ambitious Los Angeles reporter Alison Scott has just been given an on-air role with E! and lives in the guest house of her sister Debbie's family.",
    Genre: {
      Name: 'Comedy',
      Description: 'Comedy is a genre of film in which the main emphasis is on humor. These films are designed to make the audience laugh through amusement and most often work by exaggerating characteristics for humorous effect.'
    },
    Director: {
      Name: 'Judd Apatow',
      Bio: 'Judd Apatow is an American producer, writer, director, actor, and stand-up comedian.',
      Birth: '1967'
    },
    ImagePath: 'https://www.imdb.com/title/tt0478311/mediaviewer/rm2982937088/?ref_=tt_ov_i',
    Featured: false
  },
```

3) A link to the project's GitHub repository

- https://github.com/Luisa-Inc/movie_api

4) A link to the live, hosted version of my app

- https://mighty-harbor-05233.herokuapp.com/

5) A list of the technologies used for each project

- Node.js: JavaScript runtime for server-side scripting.
- Express: Back end web application framework for building RESTful APIs with Node.js.
- MongoDB with Mongoose: NoSQL database and Object Data Modeling library for Node.js.
- Postman: Allows you to design, develop, test and monitor APIs.
- body-parser: Express middleware for parsing request bodies.
- express-validator: Middleware for input validation in Express.
- jsonwebtoken: Library for JWT (JSON Web Token) generation and verification.
- lodash: Utility library for JavaScript.
- passport: Authentication middleware for Node.js.
- passport-jwt: Passport strategy for JWT authentication.
- passport-local: Passport strategy for username/password authentication.
- uuid: Library for generating unique identifiers.