# Quiz 14 - Automatic Api Generator

Ryan Hull, 11/14/2023

## Description

The tool chosen for this assignemnt was LoopBack v4

## Steps taken to complete assignment

1. Install LoopBack v4 CLI

   `npm install -g @loopback/cli`

2. Create a new LoopBack project

   `lb4 app`

3. Test the new project

   `npm start`

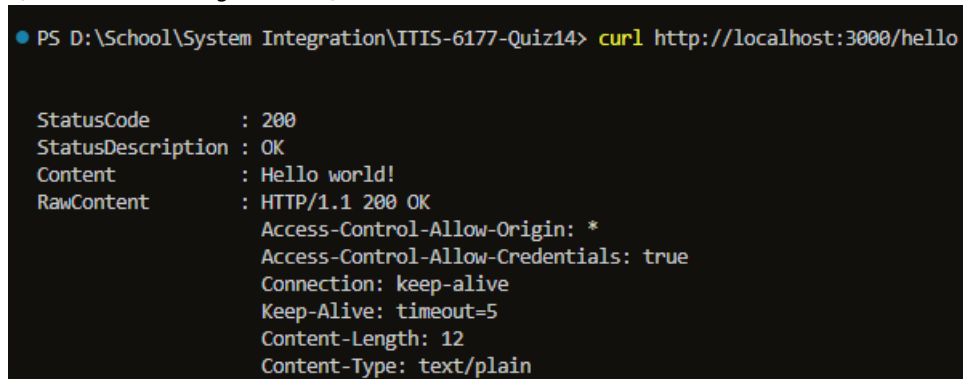4. Add a controller

   `lb4 controller` then select `REST Controller` and name it `hello`

5. Test application

   `npm start` then navigate to `http://localhost:3000/hello`

   ```
   ● PS D:\School\System Integration\ITIS-6177-Quiz14> curl http://localhost:3000/hello


   StatusCode        : 200
   StatusDescription : OK
   Content           : Hello world!
   RawContent        : HTTP/1.1 200 OK
                       Access-Control-Allow-Origin: *
                       Access-Control-Allow-Credentials: true
                       Connection: keep-alive
                       Keep-Alive: timeout=5
                       Content-Length: 12
                       Content-Type: text/plain
   ```

6. Create Todo model

   `lb4 model` then select `Entity` and name it `todo`

```
● PS D:\School\System Integration\ITIS-6177-Quiz14\itis-6177-quiz14> lb4 model
  ? Model class name: todo
  ? Please select the model base class Entity (A persisted model with an ID)
  ? Allow additional (free-form) properties? No
  Model Todo will be created in src/models/todo.model.ts

  Let's add a property to Todo
  Enter an empty property name when done

  ? Enter the property name: id
  ? Property type: number
  ? Is id the ID property? Yes
  ? Is id generated automatically? No
  ? Is it required?: No
  ? Default value [leave blank for none]:

  Let's add another property to Todo
  Enter an empty property name when done

  ? Enter the property name: title
  ? Property type: string
  ? Is it required?: Yes

  Let's add another property to Todo
  Enter an empty property name when done

  ? Enter the property name: isComplete
  ? Property type: boolean
  ? Is it required?: No
  ? Default value [leave blank for none]:

  Let's add another property to Todo
  Enter an empty property name when done

  ? Enter the property name:
     create src\models\todo.model.ts

  No change to package.json was detected. No package manager install will be executed.
     update src\models\index.ts

  Model Todo was/were created in src\models
```

7. Create datasource

   `lb4 datasource`

```
● PS D:\School\System Integration\ITIS-6177-Quiz14\itis-6177-quiz14> lb4 datasource
  ? Datasource name: db
  ? Select the connector for db:  In-memory db (supported by StrongLoop)
  ? window.localStorage key to use for persistence (browser only):
  ? Full path to file for persistence (server only): ./data/db.json
     create src\datasources\db.datasource.ts
```

8. Add db.json mock Database

   `touch src/data/db.json` then add some mock Todos

9. Add repository layer to perform CRUD operations

   `lb4 repository` then select Todo and In-memory db (supported by @loopback/repository)

```
● PS D:\School\System Integration\ITIS-6177-Quiz14\itis-6177-quiz14> lb4 repository
  ? Select the datasource DbDatasource
  ? Select the model(s) you want to generate a repository for Todo
     create src\repositories\todo.repository.ts

  No change to package.json was detected. No package manager install will be executed.
     update src\repositories\index.ts

  Repository TodoRepository was/were created in src\repositories
```

10. Add controller to expose repository methods for Todos

    `lb4 controller` then select REST Controller and name it todo

```
● PS D:\School\System Integration\ITIS-6177-Quiz14\itis-6177-quiz14> lb4 controller
  ? Controller class name: todo
  Controller Todo will be created in src/controllers/todo.controller.ts

  ? What kind of controller would you like to generate? REST Controller with CRUD functions
  ? What is the name of the model to use with this CRUD repository? Todo
  ? What is the name of your CRUD repository? TodoRepository
  ? What is the name of ID property? id
  ? What is the type of your ID? number
  ? Is the id omitted when creating a new instance? Yes
  ? What is the base HTTP path name of the CRUD operations? /todos
     create src\controllers\todo.controller.ts

  No change to package.json was detected. No package manager install will be executed.
     update src\controllers\index.ts

  Controller Todo was/were created in src\controllers
```

11. Test application

npm start then navigate to http://localhost:3000/todo, http://localhost:3000/todo/1, and htto://localhost:3000/explorer to see the generated Swagger Docs

PS D:\School\System Integration\ITIS-6177-Quiz14\itis-6177-quiz14> curl http://localhost:3000/todos

StatusCode       : 200
StatusDescription : OK
Content          : [{"id":1,"title":"Take over the galaxy"},{"id":2,"title":"destroy
                   alderaan"},{"id":3,"title":"play space invaders"},{"id":4,"title":"crush rebel
                   scum"}]
RawContent       : HTTP/1.1 200 OK
                   Access-Control-Allow-Origin: *

# itis-6177-quiz14 `0.0.1` `OAS 3.0`

./openapi.json

API Generator Tool Exploration

Contact Ryan Hull

**Servers**

[ http://localhost:3000 ⌄ ]

Filter by tag

## HelloController ⌃

| GET | /hello | ⌄ |

## PingController ⌃

| GET | /ping | ⌄ |

## TodoController ⌃

| GET | /todos/count | ⌄ |
| PUT | /todos/{id} | ⌄ |
| PATCH | /todos/{id} | ⌄ |
| GET | /todos/{id} | ⌄ |
| DELETE | /todos/{id} | ⌄ |
| POST | /todos | ⌄ |
| PATCH | /todos | ⌄ |
| GET | /todos | ⌄ |