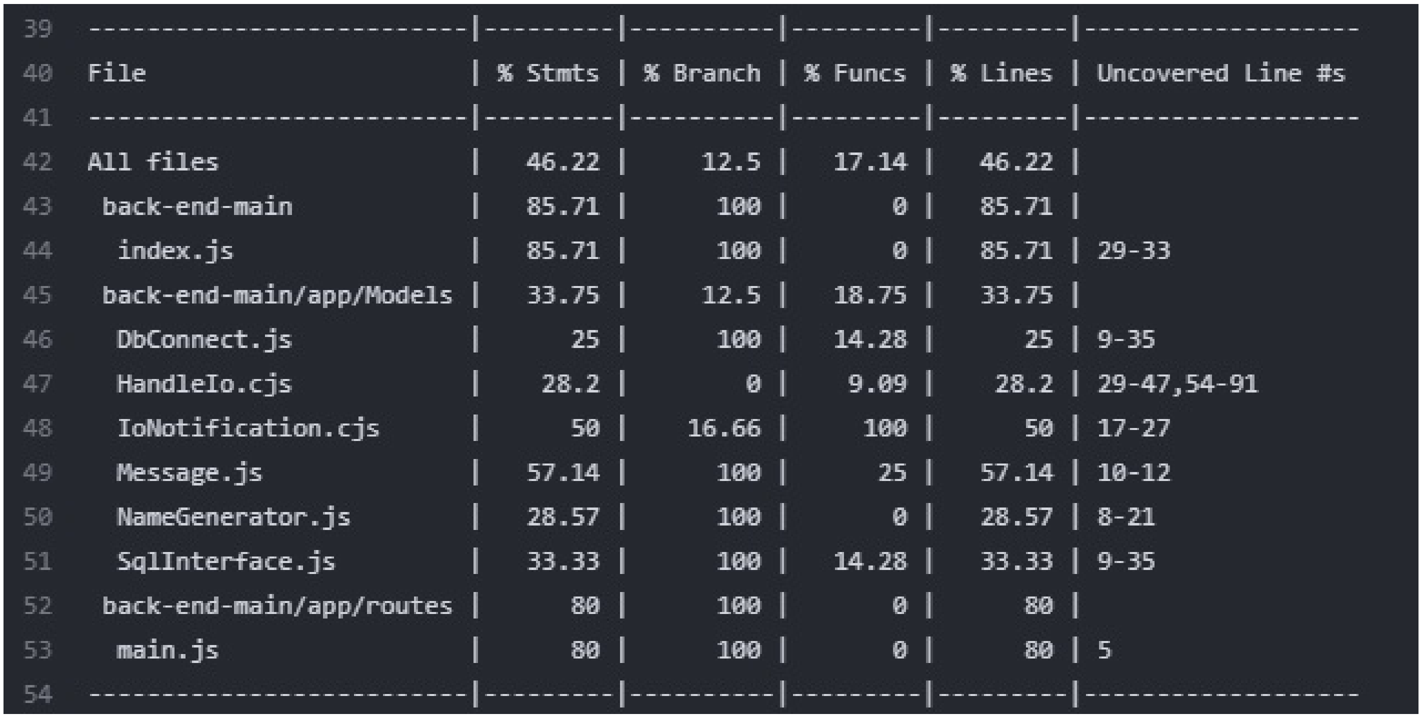
Annotation 8

Title: Testing Coverage Report

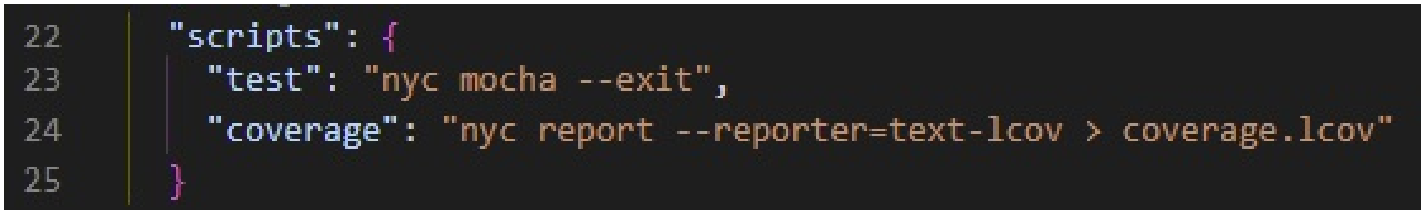
Description: This artifact is a screenshot of a coverage report resulting from the mocha/chai tests in ElectronChat. It represents an effort to improve test driven development (TDD) and having tests for as much of the source code as possible. A coverage report automatically analyses the implemented tests and calculates what percent of code is covered by tests. This gives the developer a metric that can be used to track the progress of testing. The code coverage scripts were implement by me, and reviewed by James Marshall. To ensure we had proper workflow, the ElectronChat team wanted to have a metric that calculated what parts of our source code was lacking testing. It was especially important to automate this process to reduce time constraints and human error. It is highly recommended by the software engineering community to use TDD methods and code coverage is the best tool to facilitate that effort.

Reflection: As a result of this exercise I gained insight into the proactive aspect of source code testing, better known as test driven development (TDD). I find myself wanting to write code without conceptializing the bigger picture and to properly utilize TDD methodologies I had to think of the bigger picture and plan the structure of the code. Then once the structure of the code needed is identified and the tests are written, TDD allows for the actual function to follow. I learned that running a coverage report after implementing my functions, I was better able to capture any the scope of the testing implemented, in turn implementing the TDD cycle in a systematic manner.

Artifact 8



```
--------------------------|---------|----------|---------|---------|-------------------
File                      | % Stmts | % Branch | % Funcs | % Lines | Uncovered Line #s
--------------------------|---------|----------|---------|---------|-------------------
All files                 |   46.22 |     12.5 |   17.14 |   46.22 |
 back-end-main            |   85.71 |      100 |       0 |   85.71 |
  index.js                |   85.71 |      100 |       0 |   85.71 | 29-33
 back-end-main/app/Models |   33.75 |     12.5 |   18.75 |   33.75 |
  DbConnect.js            |      25 |      100 |   14.28 |      25 | 9-35
  HandleIo.cjs            |    28.2 |        0 |    9.09 |    28.2 | 29-47,54-91
  IoNotification.cjs      |      50 |    16.66 |     100 |      50 | 17-27
  Message.js              |   57.14 |      100 |      25 |   57.14 | 10-12
  NameGenerator.js        |   28.57 |      100 |       0 |   28.57 | 8-21
  SqlInterface.js         |   33.33 |      100 |   14.28 |   33.33 | 9-35
 back-end-main/app/routes |      80 |      100 |       0 |      80 |
  main.js                 |      80 |      100 |       0 |      80 | 5
--------------------------|---------|----------|---------|---------|-------------------
```



```
  "scripts": {
    "test": "nyc mocha --exit",
    "coverage": "nyc report --reporter=text-lcov > coverage.lcov"
  }
```