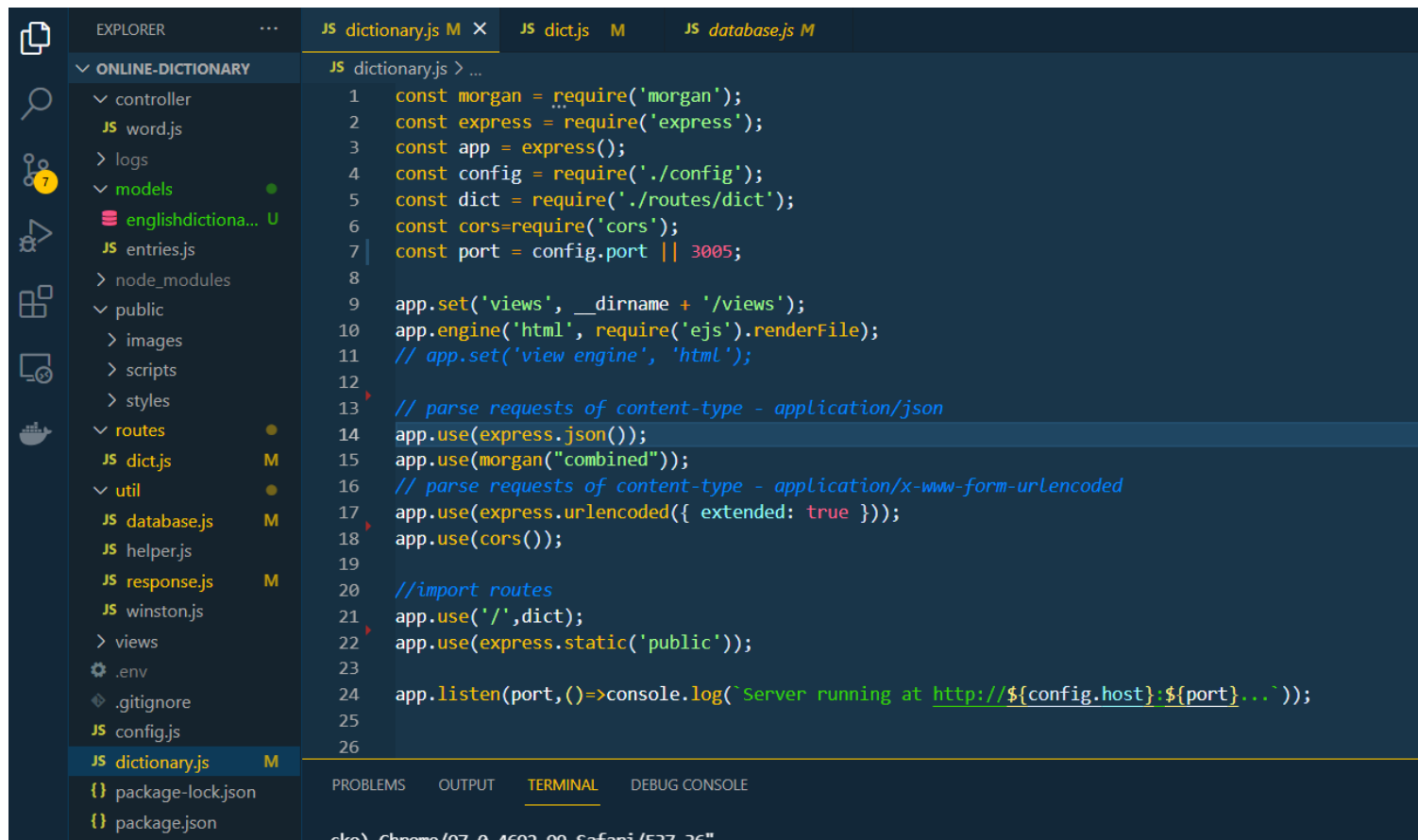


# Online Dictionary Project

Note: The configurations for the port number, database, localhost can be changed in the .env file of the project. I used npm module called sequelize a promise-based Node.js ORM which works with mysql for the database connection and operations. I also created the schema and class for the database thereby giving the application control over database related changes. The database is automatically created if it has not yet been created and automatically updates tables if there are any changes when the application launches. Note this was done purposely for the production environment can be disabled when using the application in a production environment.

The structure of the project is attached below

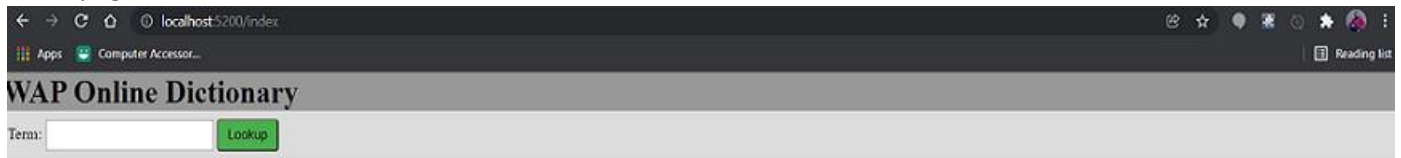


The screenshot shows the Visual Studio Code interface. On the left, the Explorer panel displays the project structure for 'ONLINE-DICTIONARY'. The files and folders are: controller (word.js), logs, models (englishdictionary.js, entries.js), node\_modules, public (images, scripts, styles), routes (dict.js), util (database.js, helper.js, response.js, winston.js), views, .env, .gitignore, config.js, dictionary.js, package-lock.json, and package.json. The 'routes' folder is expanded, showing 'dict.js'. The main editor area shows the content of 'dict.js', which is a Node.js application using Express.js and Morgan. The code includes imports for Morgan, Express, and EJS, configuration for the app, and routes for parsing JSON and URL-encoded requests. The app is configured to use the 'public' directory for static files and listens on a port defined in the config file. The terminal at the bottom shows the command 'npm start' and the output 'Server running at http://localhost:3005'.

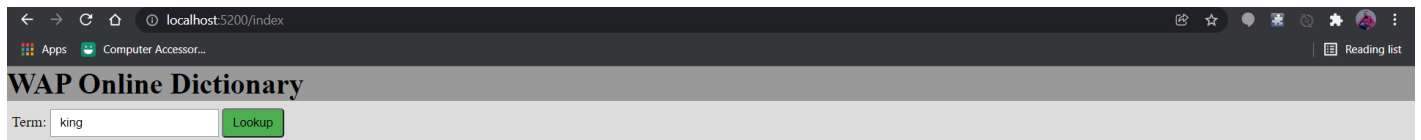
```
1  const morgan = require('morgan');
2  const express = require('express');
3  const app = express();
4  const config = require('./config');
5  const dict = require('./routes/dict');
6  const cors = require('cors');
7  const port = config.port || 3005;
8
9  app.set('views', __dirname + '/views');
10 app.engine('html', require('ejs').renderFile);
11 // app.set('view engine', 'html');
12
13 // parse requests of content-type - application/json
14 app.use(express.json());
15 app.use(morgan("combined"));
16 // parse requests of content-type - application/x-www-form-urlencoded
17 app.use(express.urlencoded({ extended: true }));
18 app.use(cors());
19
20 //import routes
21 app.use('/', dict);
22 app.use(express.static('public'));
23
24 app.listen(port, () => console.log(`Server running at http://${config.host}:${port}...`));
25
26
```

# PROJECT SCREENSHOTS

## 1. Index page



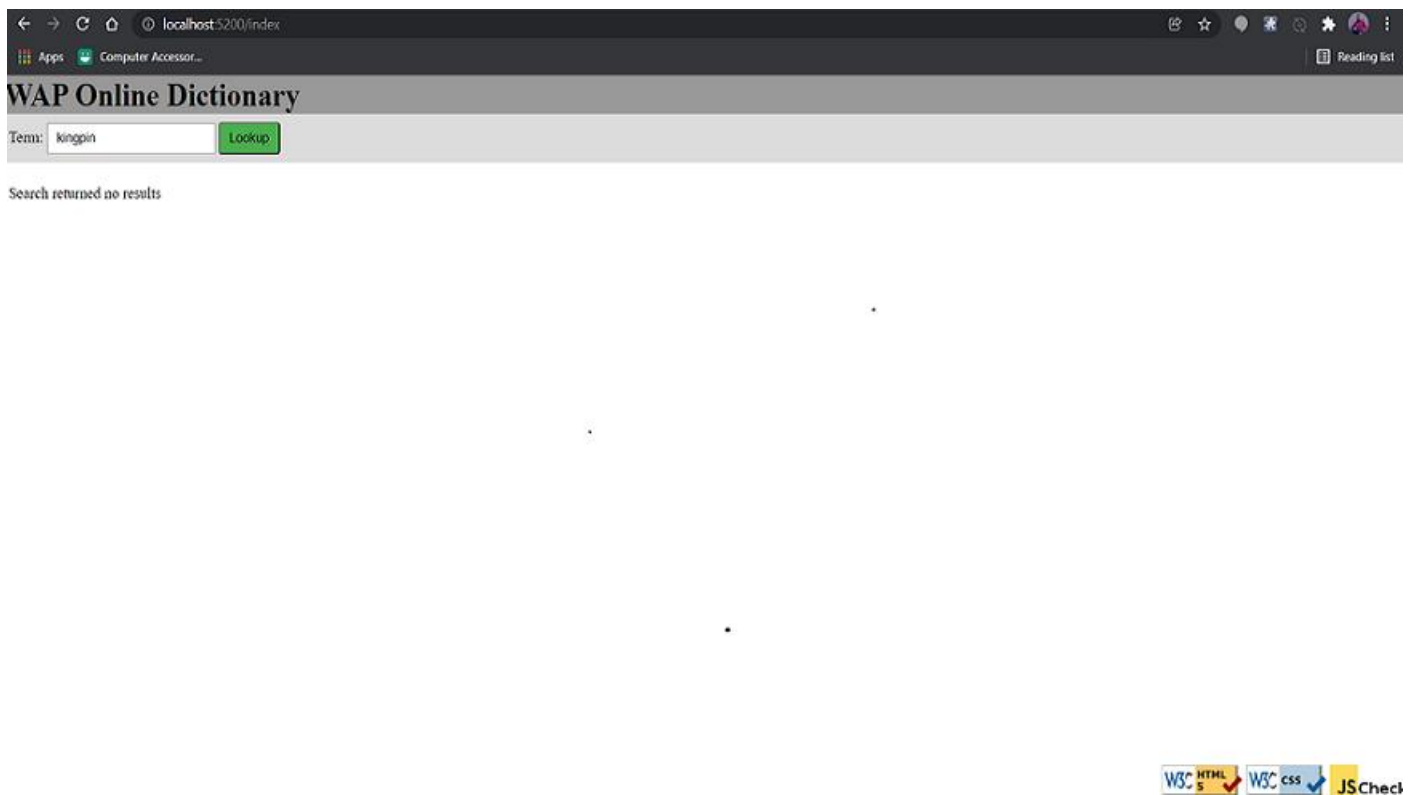
## 2. Search for a term



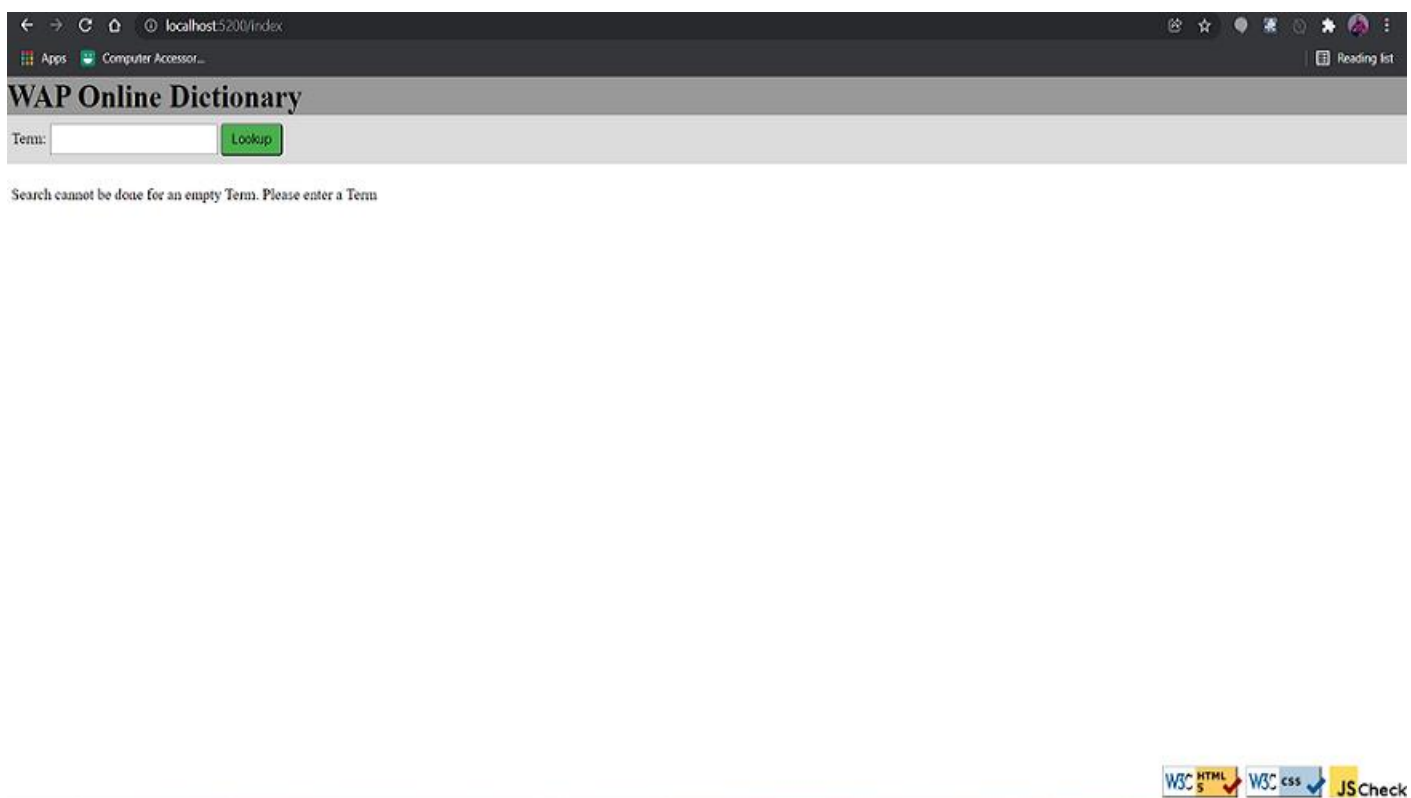
- 1(n.) :: A Chinese musical instrument, consisting of resonant stones or metal plates, arranged according to their tones in a frame of wood, and struck with a hammer.
- 2(n.) :: A chief ruler; a sovereign; one invested with supreme authority over a nation, country, or tribe, usually by hereditary succession; a monarch; a prince.
- 3(n.) :: One who, or that which, holds a supreme position or rank; a chief among competitors; as, a railroad king; a money king; the king of the lobby; the king of beasts.
- 4(n.) :: A playing card having the picture of a king; as, the king of diamonds.
- 5(n.) :: The chief piece in the game of chess.
- 6(n.) :: A crowned man in the game of draughts.
- 7(n.) :: The title of two historical books in the Old Testament.
- 8(v. i.) :: To supply with a king; to make a king of; to raise to royalty.



### 3. Search for non-existent term



### 4. Empty search term



## CODE SNIPPETS

### 1. Database.js

```
const { Sequelize } = require('sequelize');
const config = require('../config');
const Entries = require('../models/entries');

const sequelize = new Sequelize(config.mysql_db.database, config.mysql_db.user,
config.mysql_db.password, {
  host: 'localhost',
  pool: {
    max: 5,
    min: 0,
    acquire: 30000,
    idle: 10000
  },
  dialect: 'mysql' /* one of 'mysql' | 'mariadb' | 'postgres' | 'mssql' */
});

sequelize
.authenticate()
.then(() => {
  console.log('Connection to MYSQL Database established successfully.');
```

```
})
.catch(err => {
  console.error('Unable to connect to MYSQL database:', err);
});

module.exports=sequelize;
```

## 2. Dictionary.js

```
const morgan = require('morgan');
const express = require('express');
const app = express();
const config = require('./config');
const dict = require('./routes/dict');
const cors = require('cors');
const port = config.port || 3005;

app.set('views', __dirname + '/views');
app.engine('html', require('ejs').renderFile);
// app.set('view engine', 'html');

// parse requests of content-type - application/json
app.use(express.json());
app.use(morgan("combined"));
// parse requests of content-type - application/x-www-form-urlencoded
app.use(express.urlencoded({ extended: false }));
app.use(cors());

//import routes
app.use('/', dict);
app.use(express.static('public'));

app.listen(port, () => console.log(`Server running at http://${config.host}:${port}...`));
```

## 3. routes/dict.js

```
const words = require('../controller/word');
const router = require('express').Router();

router.get('/', (req, res) => {
  res.redirect('/index');
});

router.get('/search', words.searchTerm);
router.get('/index', (req, res) => {
  res.render('dict.html');
});

module.exports = router;
```

#### 4. controller/word.js

```
const Entries = require('../models/entries');
const helper = require('../util/helper');
const respBody = require('../util/response');
const path = require('path');

let wordDefinitions = [];

async function searchTerm (req, res) {
  let word = req.query.word;
  wordDefinitions = [];

  await Entries.findAll({ where: { word: word } })
    .then(data => {
      data.forEach(createResponseObject);
      res.json(respBody.ResponseBody('200', wordDefinitions, ' '));
    })
    .catch(err => {
      res.send(respBody.ResponseBody('400', '', 'Input field validation error' +
        helper.parseError(err.message)));
    });
}

async function createResponseObject(value, index) {
  let definition = `${index + 1}(${value.wordtype}) :: ${value.definition}`;
  wordDefinitions.push(definition);
}

module.exports={
  searchTerm,
};
```

## 5. models/entries.js

```
const { Sequelize, DataTypes } = require('sequelize');
const sequelize = require('../util/database');

const Entries = sequelize.define("entries", {
  word: DataTypes.STRING(25),
  wordtype: DataTypes.STRING(20),
  definition: DataTypes.TEXT
});

(async () => {
  // await sequelize.sync({ force: true });
  await Entries.sync({ alter: true });
  // Code here
})();

module.exports=Entries;
```