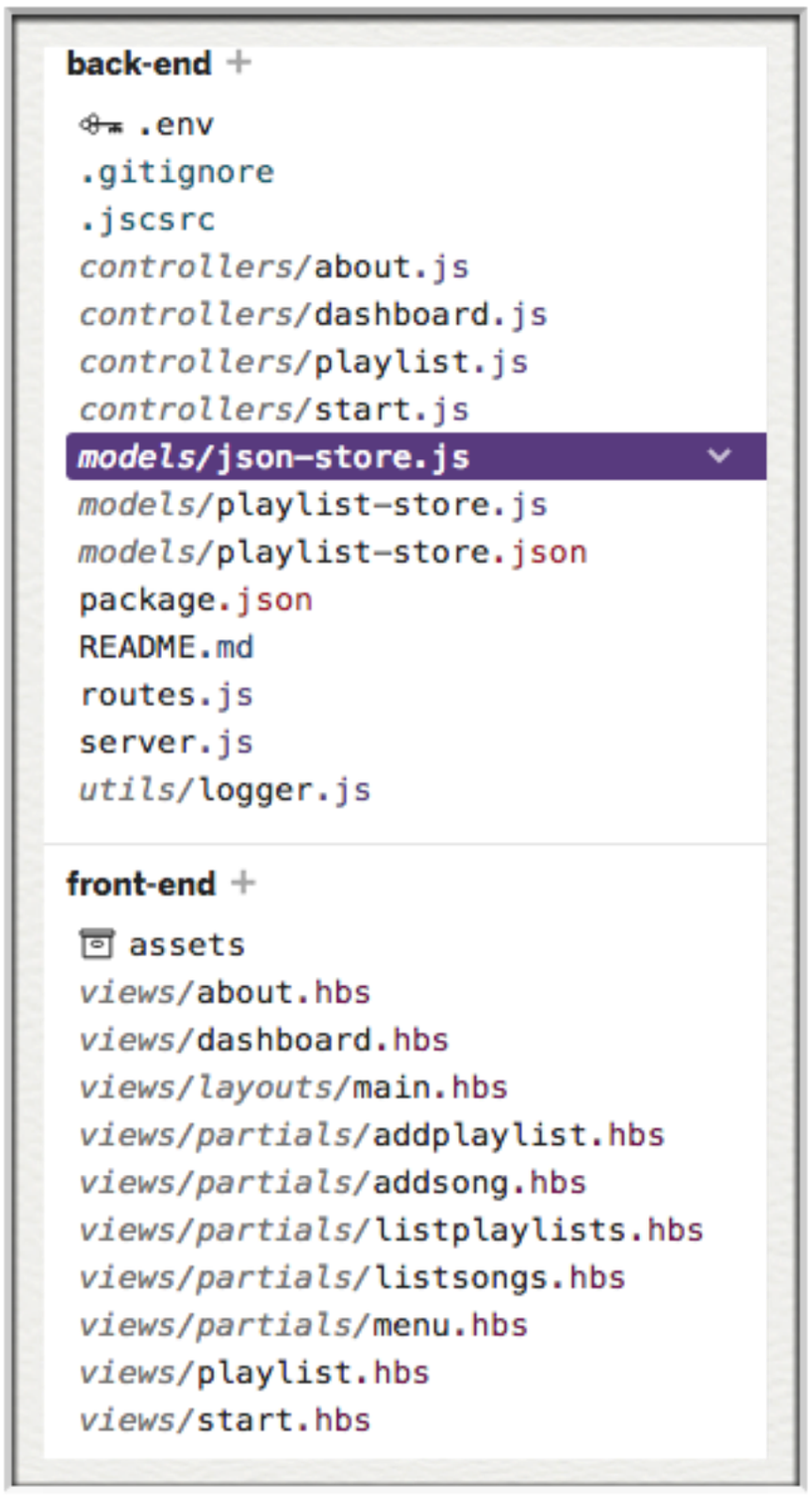
The Playlist Store

Understanding how the store is implemented is beyond the scope of this module

Databases, how they are designed and implemented is the subject of other modules

We can regard the store as a ‘black box’ - which can store and retrieve objects

All objects have ids.
Objects can contain other objects



models contains the database module

- **json-store.js**: a module to manage a database
- **playlist-store.js**: a module to manage a database of playlist objects
- **playlist-store.json**: the actual database itself - a simple file

playlist-store.json

The actual database file itself.

The database module will read/write this file.

In Glitch - the contents of the file may not be immediately in sync with the app

Restarting the app may be needed to keep the editor in sync


```
{
  "playlistCollection": [
    {
      "id" : "01",
      "title": "Beethoven Sonatas",
      "duration": 35,
      "songs": [
        {
          "id" : "04",
          "title": "Piano Sonata No. 3",
          "artist": "Beethoven",
          "genre": "Classical",
          "duration": 5
        },
        {
          "id" : "05",
          "title": "Piano Sonata No. 7",
          "artist": "Beethoven",
          "genre": "Classical",
          "duration": 6
        },
        {
          "id" : "06",
          "title": "Piano Sonata No. 10",
          "artist": "Beethoven",
          "genre": "Classical",
          "duration": 4
        }
      ]
    },
    {
      "id" : "02",
      "title": "Beethoven Concertos",
      "duration": 23,
      "songs": [
        {
          "id" : "07",
          "title": "Piano Concerto No. 0",
          "artist": "Beethoven",
          "genre": "Classical",
          "duration": 8
        },
        {
          "id" : "08",
          "title": "Piano Concerto No. 4",
          "artist": "Beethoven",
          "genre": "Classical",
          "duration": 3
        },
        {
          "id" : "09",
          "title": "Piano Concerto No. 6",
          "artist": "Beethoven",
```

json-store.js

General purpose module to maintain a JSON database

No need to modify this module

Uses the **lowdb** database module

https://github.com/typicode/lowdb

```
'use strict';

const low = require('lowdb');
const fileAsync = require('lowdb/lib/file-async');

class JsonStore {
  constructor(file, defaults) {
    this.db = low(file, { storage: fileAsync, });
    this.db.defaults(defaults).value();
  }

  add(collection, obj) {
    this.db.get(collection).push(obj).last().value();
  }

  remove(collection, obj) {
    this.db.get(collection).remove(obj).value();
  }

  removeAll(collection) {
    this.db.get(collection).remove().value();
  }

  findAll(collection) {
    return this.db.get(collection).value();
  }

  findOneBy(collection, filter) {
    const results = this.db.get(collection).filter(filter).value();
    return results[0];
  }

  findByIds(collection, ids) {
    return this.db.get(collection).keyBy('id').at(ids).value();
  }

  findBy(collection, filter) {
    return this.db.get(collection).filter(filter).value();
  }
}

module.exports = JsonStore;
```

playlist-store.js

Module to manage playlists

No need to modify this module

Uses the JsonStore module to manage the database

```
'use strict';

const _ = require('lodash');
const JsonStore = require('./json-store');

const playlistStore = {

  store: new JsonStore('./models/playlist-store.json', { playlistCollection: [] }),
  collection: 'playlistCollection',

  getAllPlaylists() {
    return this.store.findAll(this.collection);
  },

  getPlaylist(id) {
    return this.store.findOneBy(this.collection, { id: id });
  },

  addPlaylist(playlist) {
    this.store.add(this.collection, playlist);
  },

  removePlaylist(id) {
    const playlist = this.getPlaylist(id);
    this.store.remove(this.collection, playlist);
  },

  removeAllPlaylists() {
    this.store.removeAll(this.collection);
  },

  addSong(id, song) {
    const playlist = this.getPlaylist(id);
    playlist.songs.push(song);
  },

  removeSong(id, songId) {
    const playlist = this.getPlaylist(id);
    const songs = playlist.songs;
    _.remove(songs, { id: songId});
  },
};

module.exports = playlistStore;
```

playlist-store.js

Use this API to manage the store

Contains all the methods the app needs

Controllers don’t need to know how these methods are implemented - they just assume they work

```
const playlistStore = {

  getAllPlaylists() {
    ...
  },

  getPlaylist(id) {
    ...
  },

  addPlaylist(playlist) {
    ...
  },

  removePlaylist(id) {
    ...
  },

  removeAllPlaylists() {
    ...
  },

  addSong(id, song) {
    ...
  },

  removeSong(id, songId) {
    ...
  },
};
```