

The Playlist Store

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

Databases, how they are designed and implemented is the subject of later courses

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

All object have ids.

Objects can contain other objects

back-end +

```
⌘ .env  
.gitignore  
.jscsrc  
controllers/about.js  
controllers/dashboard.js  
controllers/playlist.js  
controllers/start.js  
models/json-store.js  
models/playlist-store.js  
models/playlist-store.json  
package.json  
README.md  
routes.js  
server.js  
utils/logger.js
```

front-end +

```
📁 assets  
views/about.hbs  
views/dashboard.hbs  
views/layouts/main.hbs  
views/partials/addplaylist.hbs  
views/partials/addsong.hbs  
views/partials/listplaylists.hbs  
views/partials/listsongs.hbs  
views/partials/menu.hbs  
views/playlist.hbs  
views/start.hbs
```

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 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 need 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",
          "genre": "Classical",
          "duration": 4
        }
      ]
    }
  ]
}
```

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();
  }

  save() {
    this.db.write();
  }

  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: '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);
    this.store.save();
  },

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

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

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

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

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) {  
    ...  
  },  
};
```