Working with the BioradConfig Package

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Purpose

`BioradConfig` facilitates the creation of Bio-Rad Bio-Plex 200 plate configurations. The package will provide the middleware for the Jovinge Lab's plate configuration application – interacting with the SQLite data base storing relevant information and updating approprately.

Data Back-End

The SQLite database on the back end was created with the following schema:

```
CREATE TABLE plate
( "id" INTEGER PRIMARY KEY,
    "run_date" TEXT,
    "is_processed" INTEGER
);

CREATE TABLE patient
( "id" INTEGER PRIMARY KEY,
    "redcap_id" INTEGER,
    "project_id" INTEGER,
    "is_complete_0" INTEGER,
    "is_complete_48" INTEGER,
    "is_complete_192" INTEGER,
    "all_complete" INTEGER
);

CREATE TABLE aliquot
( "id" INTEGER PRIMARY KEY,
    "plate_id" INTEGER,
  "patient_id" INTEGER,
    "barcode" TEXT,
    "redcap_id" INTEGER,
    "is_depleted" INTEGER,
    "box_number" TEXT,
  "box_row" TEXT,
  "box_col" INTEGER,
    "timepoint" TEXT,
    FOREIGN KEY(plate_id) REFERENCES plate(id),
    FOREIGN KEY(patient_id) REFERENCES patient(id)
);
```

BioradConfig Classes

Each table in the database has a corresponding `BioradConfig` class.