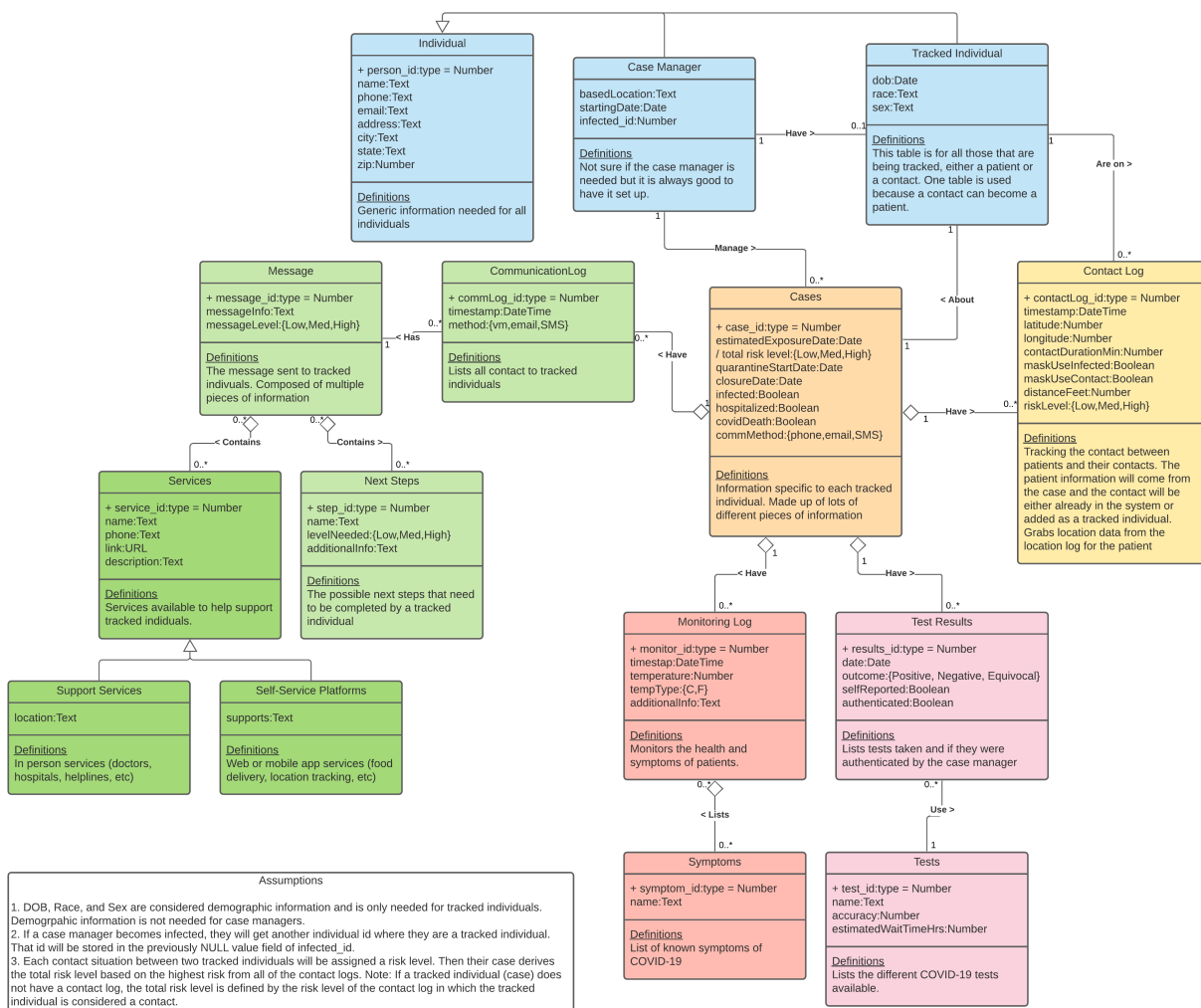


# CS5200 Fall 2020: Practicum 1

Chandra Davis, Evan Douglass

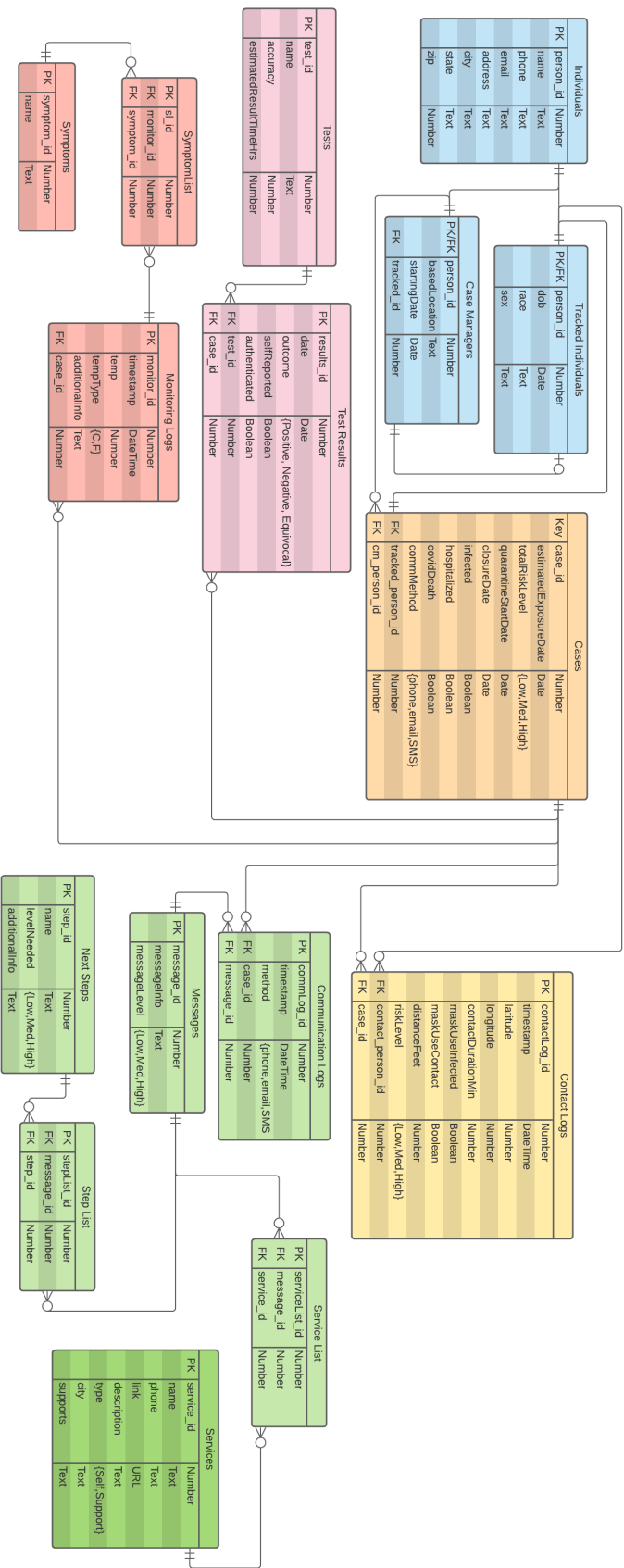
## Conceptual Model: UML

View the conceptual model in Lucid Chart here: <https://app.lucidchart.com/invitations/accept/5602312e-dfc3-4423-975c-47190ce6022e>



## Logical Model: ERD

View the logical model in Lucid Chart here: <https://app.lucidchart.com/invitations/accept/7b497cbf-268d-4a03-b1a7-822b5a844fea>



## Schema

View the schema in Google Docs here: [https://docs.google.com/document/d/1o8pk51aed3BJSaBcwO2EMbT8I3ru\\_wpGTcTN4W-DbIM/edit?usp=sharing](https://docs.google.com/document/d/1o8pk51aed3BJSaBcwO2EMbT8I3ru_wpGTcTN4W-DbIM/edit?usp=sharing)

Individuals(person\_id: Number, name: Text, phone: Text, email: Text, address: Text, city: Text, state: Text, zip: Number)

TrackedIndividuals(person\_id: Number, dob: Date, race: Text, sex: Text)

CaseManagers(person\_id: Number, basedCity: Text, basedState: Text, startingDate: Date, *infected\_id*: Number)

Tests(test\_id: Number, name: Text, accuracy: Number, estimatedResultTimeHrs: Number)

TestResults(results\_id: Number, date: Date, outcome: {Positive, Negative, Equivocal}, selfReported: Boolean, authenticated: Boolean, *test\_id*: Number, *case\_id*: Number)

MonitoringLogs(monitor\_id: Number, timestamp: DateTime, temp: Number, tempType: {C, F}, additionalInfo: Text, *case\_id*: Number)

SymptomList(sl\_id: Number, *monitor\_id*: Number, *symptom\_id*: Number)

Symptoms(symptom\_id: Number, name: Text)

Cases(case\_id: Number, estimatedExposureDate: Date, totalRiskLevel: {Low, Med, High}, quarantineStartDate: Date, closureDate: Date, infected: Boolean, hospitalized: Boolean, covidDeath: Boolean, commMethod: {phone, email, SMS}, *cm\_person\_id*: Number, *infected\_person\_id*: Number)

ContactLogs(contactLog\_id: Number, timestamp: DateTime, latitude: Number, longitude: Number, contactDurationMin: Number, maskUseInfected: Boolean, maskUseContact: Boolean, distanceFeet: Number, riskLevel: {Low, Med, High}, *contact\_person\_id*: Number, *case\_id*: Number)

CommunicationLogs(commLog\_id: Number, timestamp: DateTime, method: {phone, email, SMS}, *case\_id*: Number, *message\_id*: Number)

Messages(message\_id: Number, messageLevel: {Low, Med, High}, messageInfo: Text)

StepList(stepList\_id: Number, *message\_id*: Number, *step\_id*: Number)

NextSteps(step\_id: Number, name: Text, levelNeeded: {Low, Med, High}, additionalInfo: Text)

ServiceList(serviceList\_id: Number, *message\_id*: Number, *service\_id*: Number)

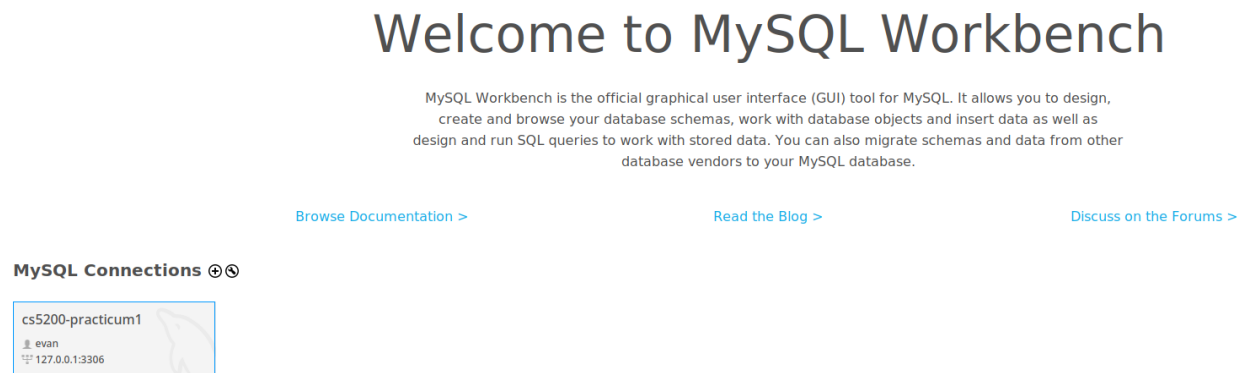
Services(service\_id: Number, name: Text, phone: Text, link: Text, description: Text, type: {Self, Support}, city: Text, supports: Text)

## Creating Database Tables

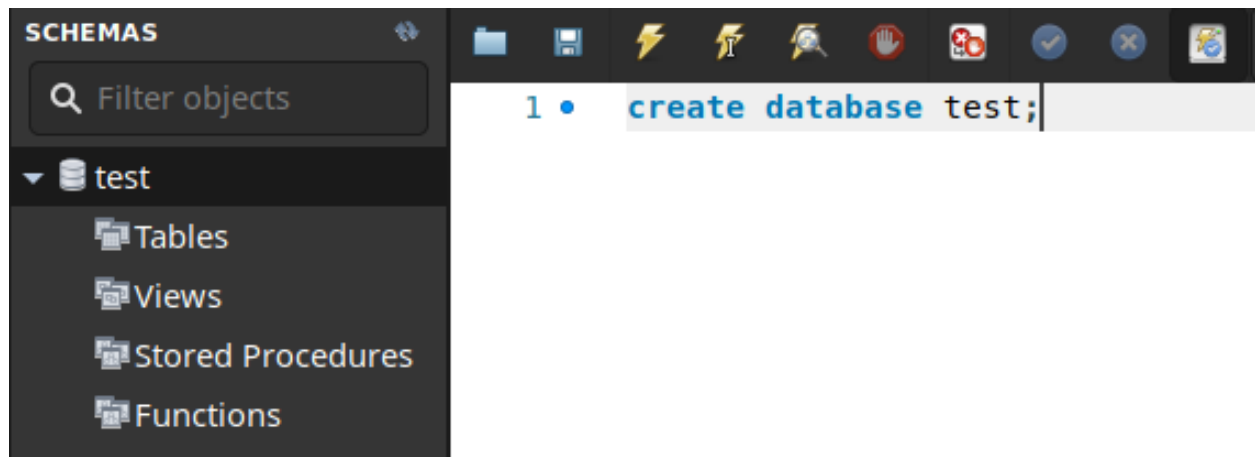
Should you wish to inspect the scripts that create the database and populate data, they can be found at <https://github.com/eldss-classwork/databases-practicum1-scripts> along with other Practicum 1 related files, including this one.

The following images will show a progression from an empty database through table creation in MySQL Workbench.

The MySQL Workbench start screen.



The newly created, empty `test` database.



The `test` database after table creation.

The screenshot shows a database management interface with a left sidebar labeled 'SCHEMAS' containing a tree view of database objects under a 'test' schema. The main area is a script editor showing a SQL script. The script starts with a comment, then sets foreign key checks to 0, followed by a series of 'DROP TABLE IF EXISTS' statements for various tables. It then sets foreign key checks back to 1 and begins to create the 'Individuals' table with columns for person\_id, name, phone, email, address, city, and state.

```

1  -- This script provides statements to build the tables required
2  -- of a contact tracing database.
3
4  -- Start by dropping tables
5 • SET foreign_key_checks = 0;
6 • DROP TABLE IF EXISTS `ContactLogs`;
7 • DROP TABLE IF EXISTS `CommunicationLogs`;
8 • DROP TABLE IF EXISTS `ServiceList`;
9 • DROP TABLE IF EXISTS `Services`;
10 • DROP TABLE IF EXISTS `StepList`;
11 • DROP TABLE IF EXISTS `Individuals`;
12 • DROP TABLE IF EXISTS `NextSteps`;
13 • DROP TABLE IF EXISTS `CaseManagers`;
14 • DROP TABLE IF EXISTS `Cases`;
15 • DROP TABLE IF EXISTS `TrackedIndividuals`;
16 • DROP TABLE IF EXISTS `Messages`;
17 • DROP TABLE IF EXISTS `SymptomList`;
18 • DROP TABLE IF EXISTS `Symptoms`;
19 • DROP TABLE IF EXISTS `MonitoringLogs`;
20 • DROP TABLE IF EXISTS `TestResults`;
21 • DROP TABLE IF EXISTS `PossibleTestOutcomes`;
22 • DROP TABLE IF EXISTS `Tests`;
23 • DROP TABLE IF EXISTS `CommunicationMethods`;
24 • DROP TABLE IF EXISTS `RiskLevels`;
25 • SET foreign_key_checks = 1;
26
27 -- Recreate the tables
28 • CREATE TABLE `Individuals` (
29   `person_id` Int PRIMARY KEY auto_increment,
30   `name` Text NOT NULL,
31   -- Tracked people demographics are voluntary
32   `phone` Text,
33   `email` Text,
34   `address` Text,
35   `city` Text,
36   `state` Text,

```

Added new script editor

## Populating The Database

### Queries