Readme.txt

To create schema and load data to PostgreSQL we have created .sql files. All the .sql files which contains SQL commands to load data and .csv files that contain the actual data are attached to the zip file.

First copy all the .csv files and start loading the below .sql files in the below sequence.

1. First load schema.sql to create all the relations/tables
2. Then load district.sql to load data to district relation
3. Then load account.sql
4. Then load client.sql
5. Then load disp.sql
6. Then load card.sql
7. Then load loan.sql
8. Then load order.sql
9. Then load trans.sql
10. Finally, load update\_schema.sql to change the schema

Data source:

https://web.archive.org/web/20180506035658/http:/lisp.vse.cz/pkdd99/Challenge/berka.htm

Web application:

For web application, we need to have following things installed:

npm, SQL, table plus.

Set up:

Extract the zip file in that we 2 folders: client and server.

Go in each folder and run *npm install*

Now open table plus

create a new PostgreSQL connection in that enter details similar to db.js in server folder.

Open terminal, enter psql postgres

Now run following queries in the same terminal

create table district(district\_id int, A2 varchar(20), A3 varchar(30), A4 int,

A5 int, A6 int, A7 int, A8 int, A9 int, A10 real, A11 int,

A12 real, A13 real, A14 int, A15 int, A16 int,

Primary key(district\_id));

create table account(account\_id int, district\_id int, frequency varchar(20),

date Date,

Primary key(account\_id),

foreign key(district\_id) REFERENCES district on delete set NULL);

create table loan(loan\_id int, account\_id int, date Date, amount int, duration int,

payments real, status varchar(20),

Primary key(loan\_id),

foreign key(account\_id) REFERENCES account on delete cascade);

create table order1 (order\_id int, account\_id int, bank\_to varchar(20),

account\_to int, amount real, k\_symbol varchar(20),

Primary key(order\_id),

foreign key(account\_id) REFERENCES account on delete cascade);

create table trans(trans\_id int, account\_id int, date Date, type varchar(20),

operation varchar(20), amount int, balance int,

k\_symbol varchar(20), bank varchar(20), account int,

primary key(trans\_id),

foreign key(account\_id) REFERENCES account on delete cascade);

create table client(client\_id int, gender varchar(20), birth\_date Date,

district\_id int,

primary key(client\_id),

foreign key(district\_id) REFERENCES district on delete set NULL);

create table disp(disp\_id int, client\_id int, account\_id int, type varchar(20),

primary key(disp\_id),

foreign key(account\_id) REFERENCES account on delete cascade,

foreign key(client\_id) references client on delete cascade);

create table card(card\_id int, disp\_id int, type varchar(20), issued Date,

primary key(card\_id),

foreign key(disp\_id) references disp on delete cascade);

update account set frequency = 'WEEKLY ISSUANCE' where frequency = 'POPLATEK TYDNE';

update account set frequency = 'MONTHLY ISSUANCE' where frequency = 'POPLATEK MESICNE';

update account set frequency = 'EVERY TRANSACTION' where frequency = 'POPLATEK PO OBRATU';

update account set frequency = 'EVERY TRANSACTION' where frequency = 'POPLATEK PO OBRATU';

alter table account RENAME column frequency to statement\_frequency;

alter table account RENAME column date to account\_opening\_date;

alter table disp rename to Disposition;

alter table disposition rename column type to disposition\_type;

alter table order1 rename to payments;

alter table payments rename column k\_symbol to payment\_for;

update payments set payment\_for = 'HOUSEHOLD' where payment\_for = 'SIPO';

update payments set payment\_for = 'LOAN' where payment\_for = 'UVER';

alter table trans rename to transactions;

alter table transactions rename column trans\_id to transaction\_id;

alter table transactions rename column date to transaction\_date;

alter table transactions rename column type to transaction\_type;

alter table transactions rename column operation to transaction\_mode;

alter table transactions rename column k\_symbol to transaction\_for;

update transactions set transaction\_for = 'INSURANCE' where transaction\_for = 'POJISTNE';

update transactions set transaction\_for = 'STATEMENT' where transaction\_for = 'SLUZBY';

update transactions set transaction\_for = 'INTEREST CREDITED' where transaction\_for = 'UROK';

update transactions set transaction\_for = 'NEGATIVE BALANCE' where transaction\_for = 'SANKC. UROK';

update transactions set transaction\_for = 'HOUSEHOLD' where transaction\_for = 'SIPO';

update transactions set transaction\_for = 'PENSION' where transaction\_for = 'DUCHOD';

update transactions set transaction\_for = 'LOAN' where transaction\_for = 'UVER';

ALTER TABLE transactions

ALTER COLUMN transaction\_mode TYPE varchar(30);

update transactions set transaction\_mode = 'CREDIT CARD WITHDRAWAL' where transaction\_mode = 'VYBER KARTOU';

update transactions set transaction\_mode = 'CREDIT IN CASH' where transaction\_mode = 'VKLAD';

update transactions set transaction\_mode = 'COLLECTION FROM ANOTHER BANK' where transaction\_mode = 'PREVOD Z UCTU';

update transactions set transaction\_mode = 'WITHDRAWAL IN CASH' where transaction\_mode = 'VYBER';

update transactions set transaction\_mode = 'REMITTANCE TO ANOTHER BANK' where transaction\_mode = 'PREVOD NA UCET';

update transactions set transaction\_type = 'CREDIT' where transaction\_type = 'PRIJEM';

update transactions set transaction\_type = 'WITHDRAWAL' where transaction\_type = 'VYDAJ';

alter table transactions rename column bank to bank\_to;

alter table transactions rename column account to account\_to;

alter table transactions rename column amount to transaction\_amount;

alter table transactions rename column balance to account\_balance;

alter table loan rename column date to loan\_granted\_on;

alter table loan rename column Amount to loan\_amount;

alter table loan rename column Duration to loan\_duration;

alter table loan rename column Payments to monthly\_payments;

alter table loan rename column Status to loan\_status;

ALTER TABLE loan

ALTER COLUMN loan\_status TYPE varchar(40);

update loan set loan\_status = 'CONTRACT FINISHED, LOAN PAYED' where loan\_status = 'A';

update loan set loan\_status = 'CONTRACT FINISHED, LOAN NOT PAYED' where loan\_status = 'B';

update loan set loan\_status = 'RUNNING CONTRACT, OKAY SO FAR' where loan\_status = 'C';

update loan set loan\_status = 'RUNNING CONTRACT, CLIENT IN DEBT' where loan\_status = 'D';

alter table card rename column issued to issued\_on;

alter table district rename A2 to district\_name;

alter table district rename A3 to district\_region;

alter table district rename A4 to number\_of\_inhabitants;

alter table district rename A9 to number\_of\_cities;

alter table district rename A10 to ratio;

alter table district rename A11 to avg\_salary;

alter table district rename A12 to unemployment\_rate\_95;

alter table district rename A13 to unemployment\_rate\_96;

alter table district rename A15 to crimes\_in\_95;

alter table district rename A16 to crimes\_in\_96;

ALTER TABLE district DROP COLUMN A5;

ALTER TABLE district DROP COLUMN A6;

ALTER TABLE district DROP COLUMN A7;

ALTER TABLE district DROP COLUMN A8;

ALTER TABLE district DROP COLUMN A14;

After running these queries go to client folder and run npm start

Open two terminals in VSCODE, in one terminal goto server folder and run nodemon index while in other terminal, goto client folder and run npm start

After running these commands you will see the web application running in the browser.