Fakulta riadenia a informatiky

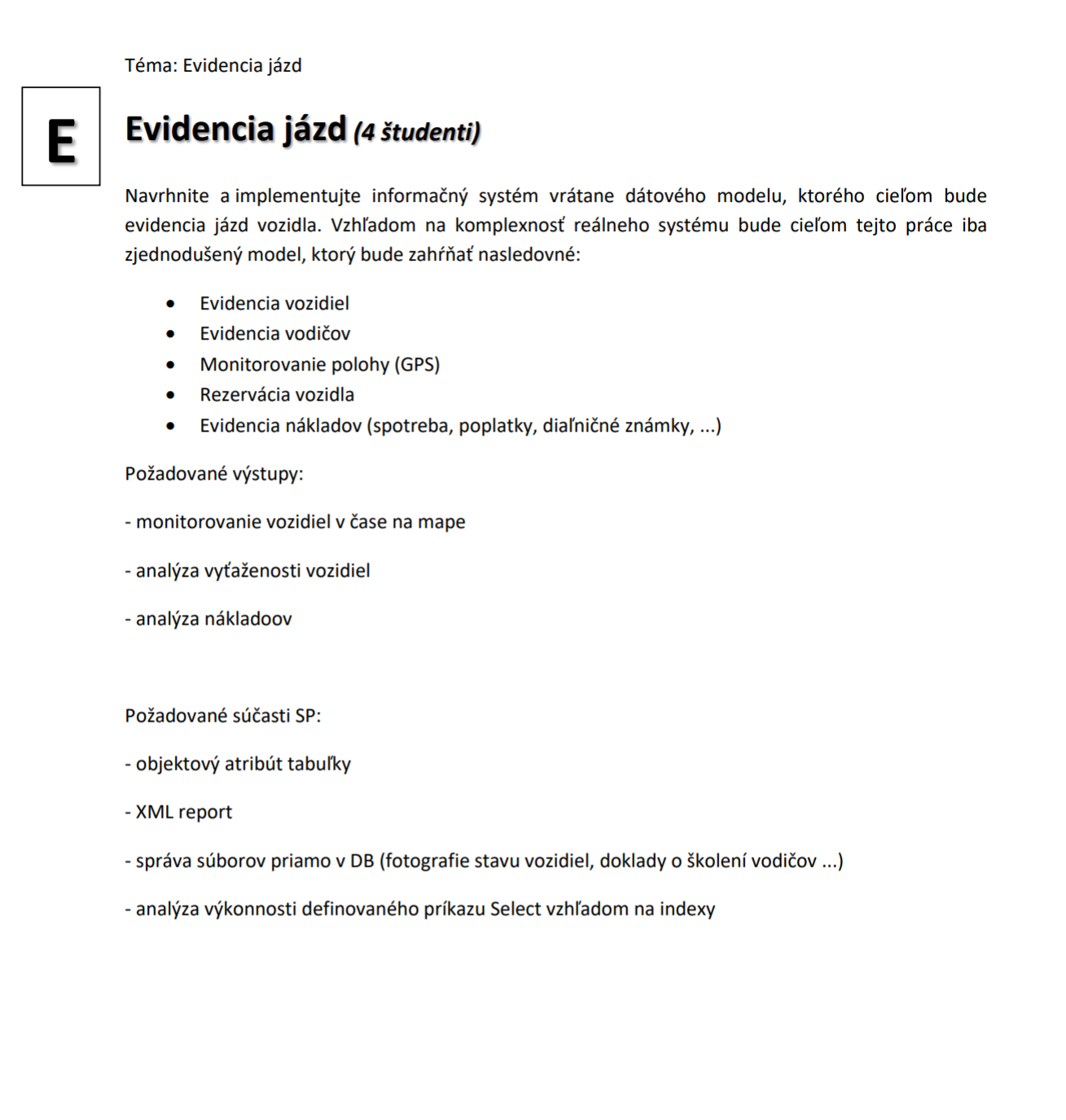
**SEMESTRÁLNA PRÁCA**

Pokročilé databázové systémy

Zadanie E

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Zadanie Použite technológie

* Maven
* Springboot
* myBatis
* PostgreSQL,
* Java
* Angular
* flywayDB
* Rest
* XML

Schéma



Generátor schémy

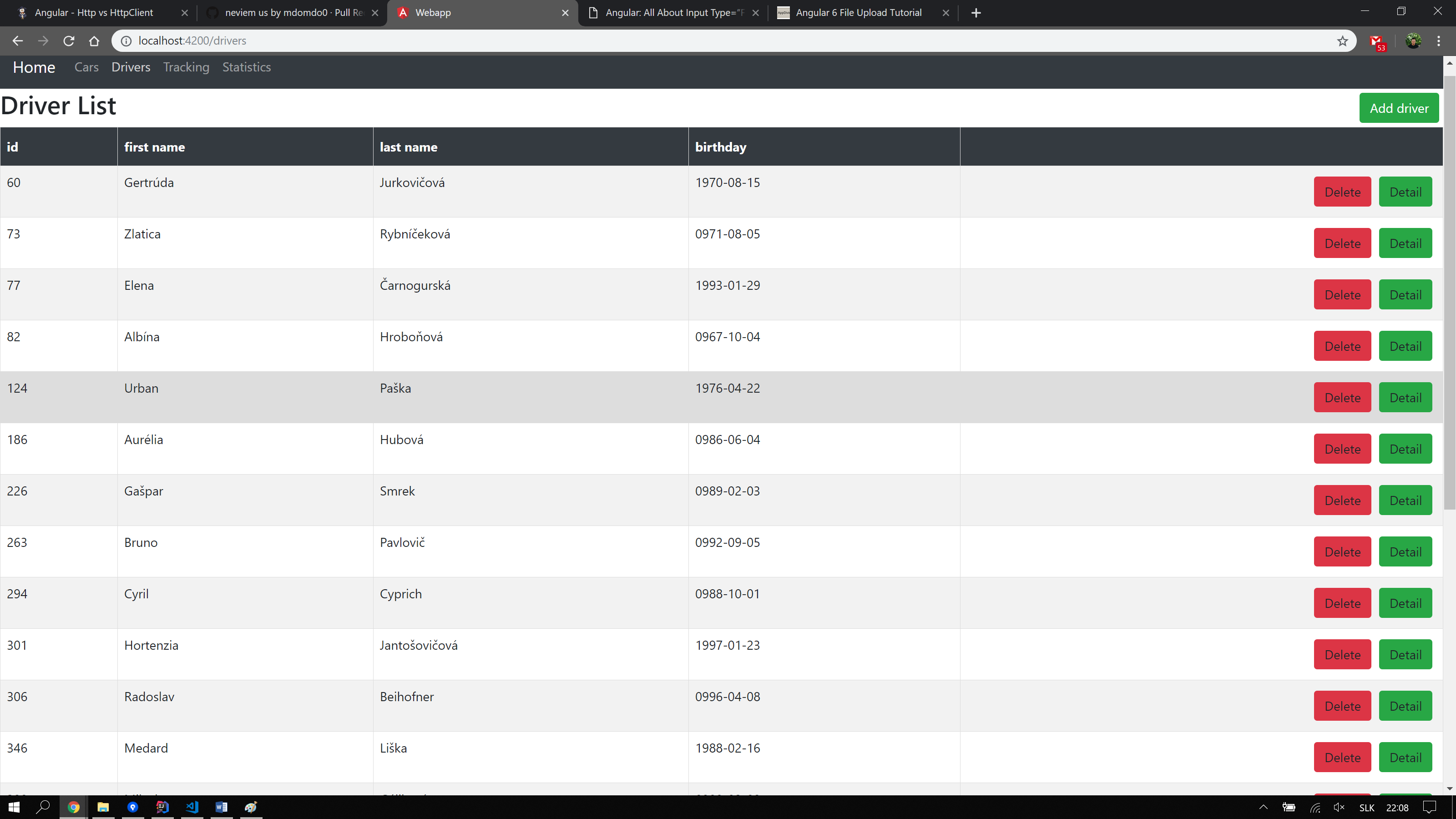
**create** sequence hibernate\_sequence;  
**alter** sequence hibernate\_sequence owner **to** postgres;  
  
**create type** coordinates **as**(  
 longitute **real**,  
 latitude **real**);  
**alter type** coordinates owner **to** postgres;  
  
**create type** ride **as**(  
 ride\_id bigint,  
 car\_id **integer**,  
 identity\_number bigint,  
 datetime\_from **timestamp**,  
 datetime\_to **timestamp**);  
**alter type** ride owner **to** postgres;  
  
**create table** if **not exists** car  
(  
 car\_id bigserial **not null  
 constraint** car\_pkey  
 **primary key**,  
 **name varchar**(50) **not null**,  
 **type varchar**(20) **not null**,  
 fuel **varchar**(4) **not null**,  
 consumption **double precision not null**,  
 picture\_id bigint **not null**);  
**alter table** car owner **to** postgres;  
  
**create table** car\_picture  
(  
 picture\_id bigserial **not null  
 constraint** car\_picture\_pk  
 **primary key**,  
 **name varchar**(20) **not null**,  
 subname **varchar**(20) **not null**,  
 **type varchar**(10) **not null**,  
 color **varchar**(10) **not null**,  
 picture bytea  
);  
**alter table** car\_picture owner **to** postgres;  
  
**alter table** car **ADD CONSTRAINT** car\_picture\_car\_picture\_id\_fk **FOREIGN KEY** (picture\_id) **REFERENCES** car\_picture (picture\_id) **on update cascade on delete cascade**;  
  
**create table** if **not exists** course  
(  
 course\_id serial **not null  
 constraint** course\_pk  
 **primary key**,  
 course\_name **varchar**(50) **not null**,  
 course\_type **varchar**(20) **not null**);  
**alter table** course owner **to** postgres;  
  
**create table** if **not exists** person  
(  
 identity\_number bigint **not null  
 constraint** person\_pk  
 **primary key**,  
 first\_name **varchar**(50) **not null**,  
 last\_name **varchar**(50) **not null**,  
 birthday **timestamp not null**);  
**alter table** person owner **to** postgres;  
  
 **create table** if **not exists** person\_course  
(  
 person\_course\_id bigserial **not null  
 constraint** driver\_course\_pk **primary key**,  
 course\_id **integer not null  
 constraint** driver\_course\_course\_course\_id\_fk  
 **references** course **on update cascade on delete cascade**,  
 date\_from **timestamp not null**,  
 date\_to **timestamp**,  
 identity\_number bigint **not null  
 constraint** person\_course\_person\_identity\_number\_fk  
 **references** person **on update cascade on delete cascade**);  
**alter table** person\_course owner **to** postgres;  
  
**create table** if **not exists** ride\_obj **of** ride  
(**CONSTRAINT** ride\_obj\_pk **PRIMARY KEY** (ride\_id));  
  
**alter table** ride\_obj **ADD CONSTRAINT** ride\_obj\_car\_car\_id\_fk **FOREIGN KEY** (car\_id) **REFERENCES** car (car\_id) **on update cascade on delete cascade**;  
**alter table** ride\_obj **ADD CONSTRAINT** ride\_obj\_person\_identity\_number\_fk **FOREIGN KEY** (identity\_number) **REFERENCES** person (identity\_number) **on update cascade on delete cascade**;  
**alter table** ride\_obj owner **to** postgres;  
  
**create table** if **not exists** location  
(  
 location\_id bigserial **not null  
 constraint** location\_pk  
 **primary key**,  
 ride\_id bigint **not null  
 constraint** location\_ride\_obj\_ride\_id\_fk  
 **references** ride\_obj  
 **on update cascade on delete cascade**,  
 **time timestamp default CURRENT\_TIMESTAMP not null**,  
 coordinates coordinates **not null**);  
**alter table** location owner **to** postgres;  
  
**create table** if **not exists** payment  
(  
 payment\_id bigserial **not null  
 constraint** payment\_pk **primary key**,  
 ride\_id bigint **not null  
 constraint** payment\_ride\_ride\_id\_fk  
 **references** ride\_obj **on update cascade on delete cascade**,  
 **value double precision not null**,  
 description **varchar**(50) **not null**);  
**alter table** payment owner **to** postgres;  
  
**create or** replace function picture\_import(p\_path text, OUT p\_result bytea) returns bytea  
 **language** plpgsql  
**as** $$  
**declare** l\_oid oid;  
**begin  
 select** lo\_import(p\_path) **into** l\_oid;  
 **select** lo\_get(l\_oid) **INTO** p\_result;  
 perform lo\_unlink(l\_oid);  
**end**;  
$$;  
**alter** function picture\_import(text, out bytea) owner **to** postgres;  
  
**create or** replace function seed\_car\_pictures(p\_path text, p\_result out boolean)  
**language** plpgsql **as** $$  
**declare** pictures **cursor for select** \* **from** car\_picture;  
**begin** p\_result := **false**;  
 **for** pic **in** pictures  
 loop  
 **UPDATE** car\_picture **SET** picture = *picture\_import*(p\_path || pic.name || '\' || pic.type || '\' || pic.subname || '-' || pic.color || '.jpg') **WHERE** picture\_id = pic.picture\_id;  
 **end** loop;  
 p\_result := **true**;  
**end**;$$;  
**alter** function seed\_car\_pictures(text, out bytea) owner **to** postgres;

Požadovane výstupy

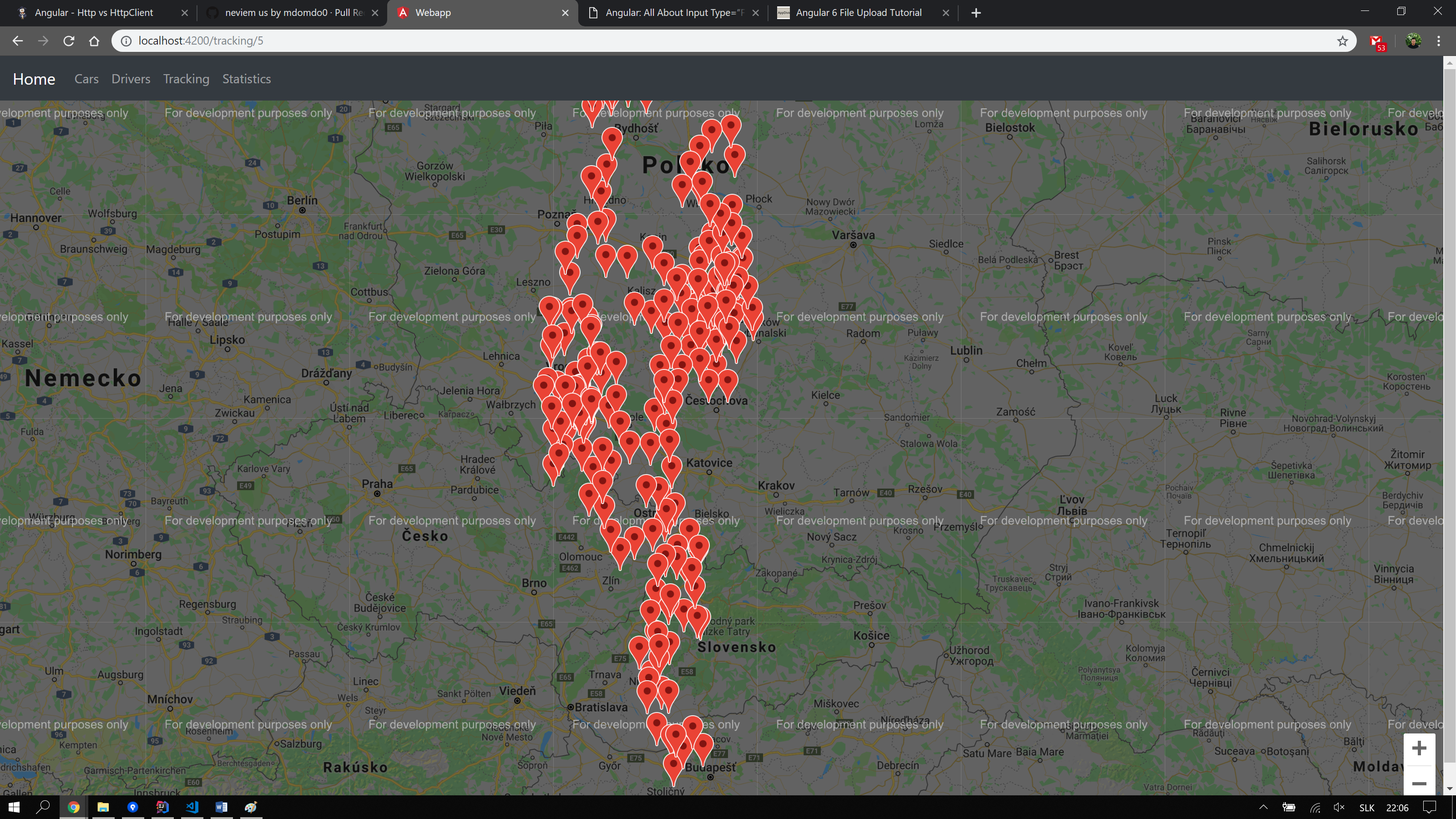
* výpis platieb za daný mesiac v XML



* výpis platieb podľa jazdy a typu
* výpis vodičov (osoba ktorá ma aktuálne platný vodičsky preukaz a skolenie o vedení vozidla patriaceho referentskej firme)



* výpis všetkých rezervácii a údajov s nimi spojenými
* zobrazenie polôh daného vozidla na mape



* výpis všetkých aut po stránkach s obrázkami

