Einführung Overpass

Stuttgarter Stammtisch

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Was ist Overpass ?

- **Overpass turbo** ist ein webbasierendes Datensammelwerkzeug für OpenStreetMap. Die Webadresse ist http://overpass-turbo.eu.
- Es läuft mit jeder Overpass-API-Abfrage und zeigt die Resultate in einer interaktiven Karte.

wichtige Links

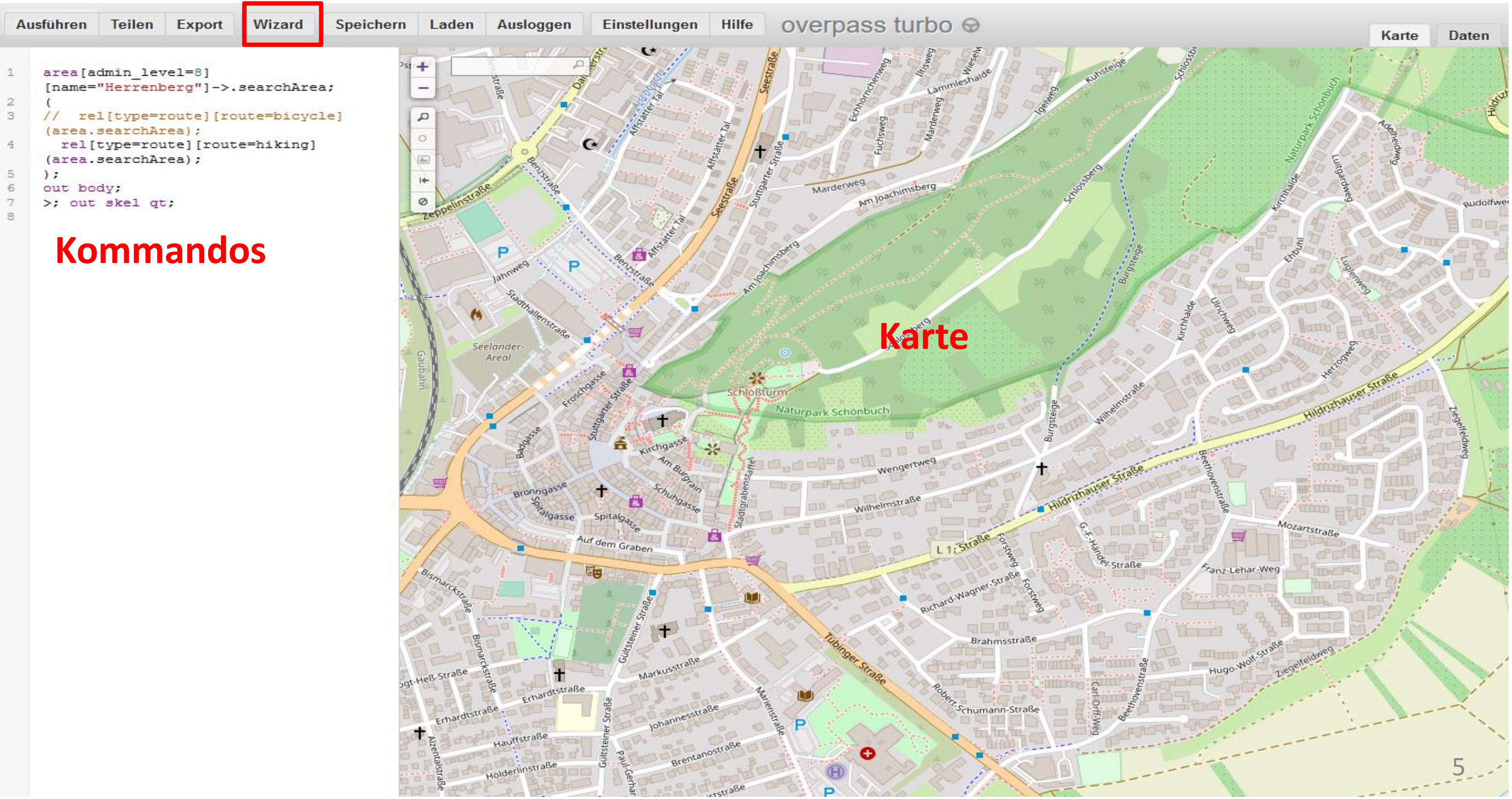
- Main developpers:
  - Turbo: Martin Raifer (mail: martin@raifer.tech)
    https://wiki.openstreetmap.org/wiki/User:Tyr)
  - API: Roland Olbricht (mail: roland.olbricht@gmx.de
    https://wiki.openstreetmap.org/wiki/User:Roland.olbricht

- http://overpass-turbo.eu/ „GUI“
- https://wiki.openstreetmap.org/wiki/DE:Overpass_turbo Wiki
- http://overpass-api.de/index.html Doku
- https://wiki.openstreetmap.org/wiki/Overpass_API/Overpass_QL Query Lang
- https://wiki.openstreetmap.org/wiki/Overpass_API/Overpass_API_by_Example
- https://wiki.openstreetmap.org/wiki/Overpass_API API Dok

getting started

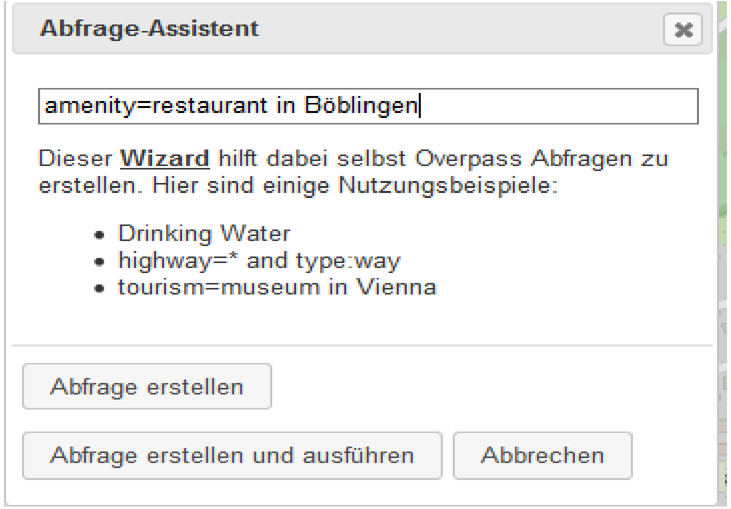
http://overpass-turbo.eu/

Befehle



```
area[admin_level=8][name="Herrenberg"]->.searchArea;
(
//  rel[type=route][route=bicycle](area.searchArea);
  rel[type=route][route=hiking](area.searchArea);
);
out body;
>; out skel qt;
```

Wizzard



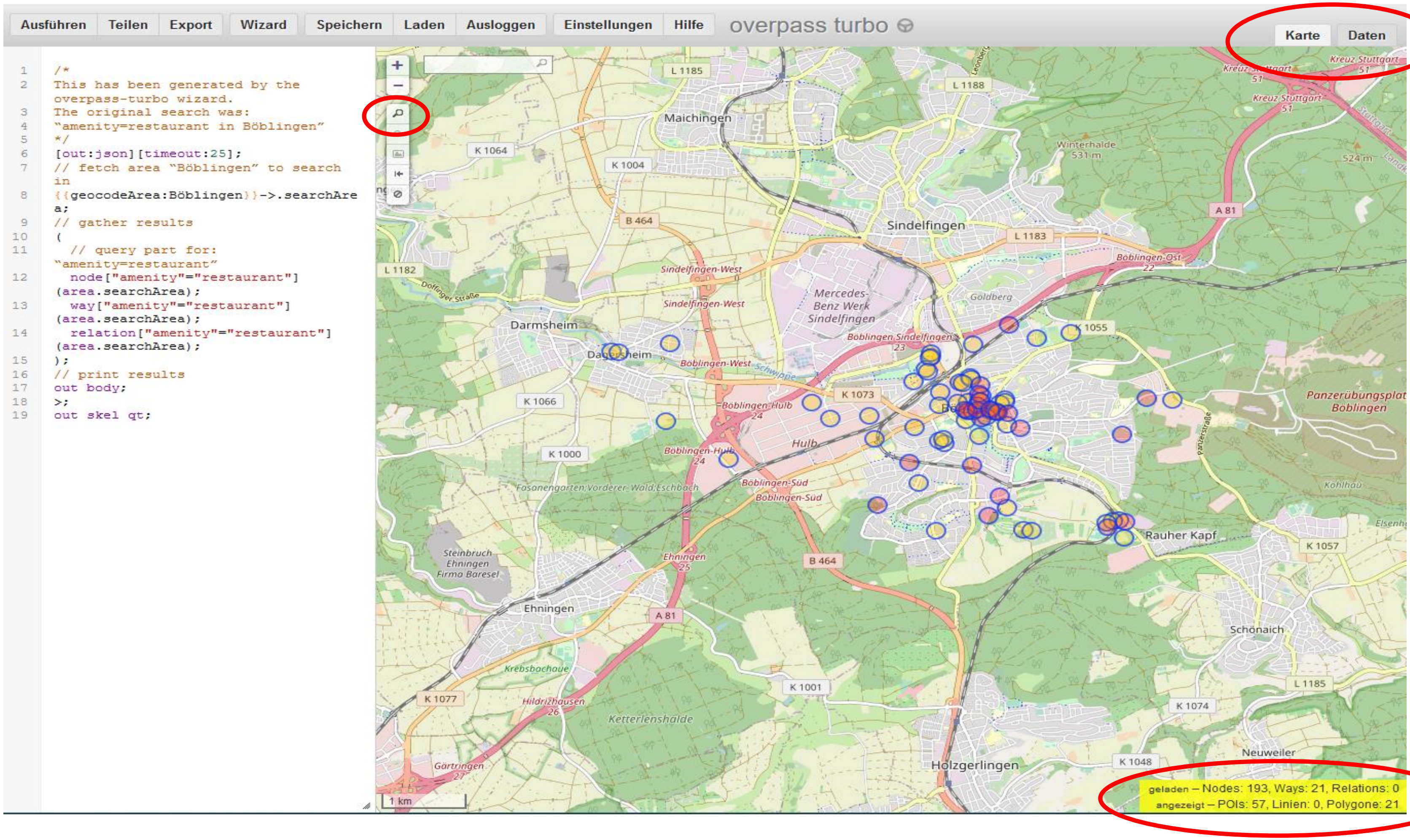
amenity=restaurant in Böblingen

Dieser **Wizard** hilft dabei selbst Overpass Abfragen zu erstellen. Hier sind einige Nutzungsbeispiele:

- Drinking Water
- highway=* and type:way
- tourism=museum in Vienna

```
/*
This has been generated by the overpass-turbo wizard.
The original search was:
“amenity=restaurant in Böblingen”
*/
[out:json][timeout:25];
// fetch area “Böblingen” to search in
{{geocodeArea:Böblingen}}->.searchArea;
// gather results
(
  // query part for: “amenity=restaurant”
  node["amenity"="restaurant"](area.searchArea);
  way["amenity"="restaurant"](area.searchArea);
  relation["amenity"="restaurant"](area.searchArea);
);
// print results
out body;
>;
out skel qt;
```

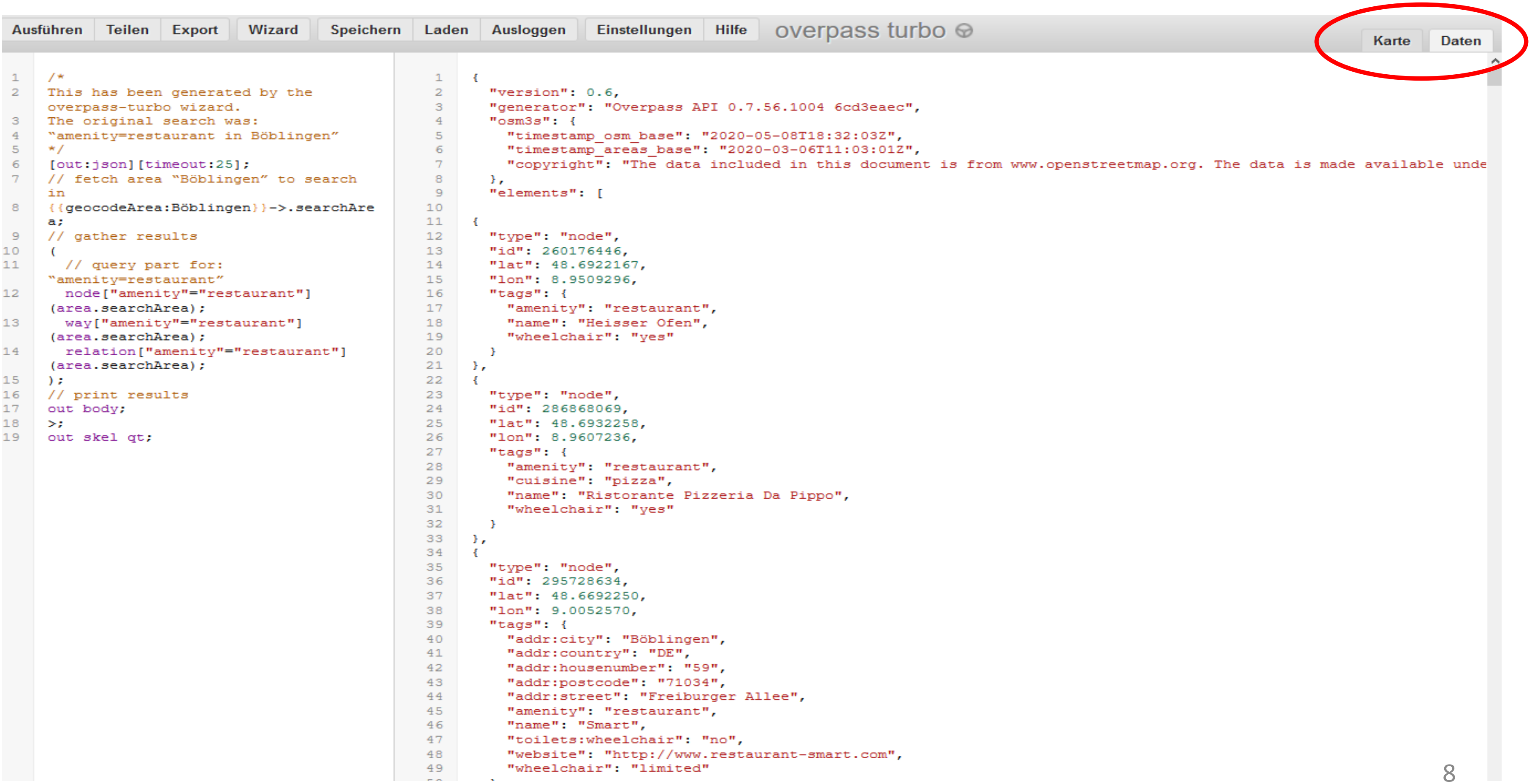
erste Abfrage



```
/*
This has been generated by the overpass-turbo wizard.
The original search was:
“amenity=restaurant in Böblingen”
*/
[out:json][timeout:25];
// fetch area “Böblingen” to search in
{{geocodeArea:Böblingen}}->.searchArea;
// gather results
(
  // query part for: “amenity=restaurant”
  node["amenity"="restaurant"](area.searchArea);
  way["amenity"="restaurant"](area.searchArea);
  relation["amenity"="restaurant"](area.searchArea);
);
// print results
out body;
>;
out skel qt;
```

```
geladen – Nodes: 193, Ways: 21, Relations: 0
angezeigt – POIs: 57, Linien: 0, Polygone: 21
```

erste Abfrage



```
/*
This has been generated by the overpass-turbo wizard.
The original search was:
“amenity=restaurant in Böblingen”
*/
[out:json][timeout:25];
// fetch area “Böblingen” to search in
{{geocodeArea:Böblingen}}->.searchArea;
// gather results
(
  // query part for: “amenity=restaurant”
  node["amenity"="restaurant"](area.searchArea);
  way["amenity"="restaurant"](area.searchArea);
  relation["amenity"="restaurant"](area.searchArea);
);
// print results
out body;
>;
out skel qt;
```

```
{
  "version": 0.6,
  "generator": "Overpass API 0.7.56.1004 6cd3eaec",
  "osm3s": {
    "timestamp_osm_base": "2020-05-08T18:32:03Z",
    "timestamp_areas_base": "2020-03-06T11:03:01Z",
    "copyright": "The data included in this document is from www.openstreetmap.org. The data is made available unde
  },
  "elements": [

{
  "type": "node",
  "id": 260176446,
  "lat": 48.6922167,
  "lon": 8.9509296,
  "tags": {
    "amenity": "restaurant",
    "name": "Heisser Ofen",
    "wheelchair": "yes"
  }
},
{
  "type": "node",
  "id": 286868069,
  "lat": 48.6932258,
  "lon": 8.9607236,
  "tags": {
    "amenity": "restaurant",
    "cuisine": "pizza",
    "name": "Ristorante Pizzeria Da Pippo",
    "wheelchair": "yes"
  }
},
{
  "type": "node",
  "id": 295728634,
  "lat": 48.6692250,
  "lon": 9.0052570,
  "tags": {
    "addr:city": "Böblingen",
    "addr:country": "DE",
    "addr:housenumber": "59",
    "addr:postcode": "71034",
    "addr:street": "Freiburger Allee",
    "amenity": "restaurant",
    "name": "Smart",
    "toilets:wheelchair": "no",
    "website": "http://www.restaurant-smart.com",
    "wheelchair": "limited"
```

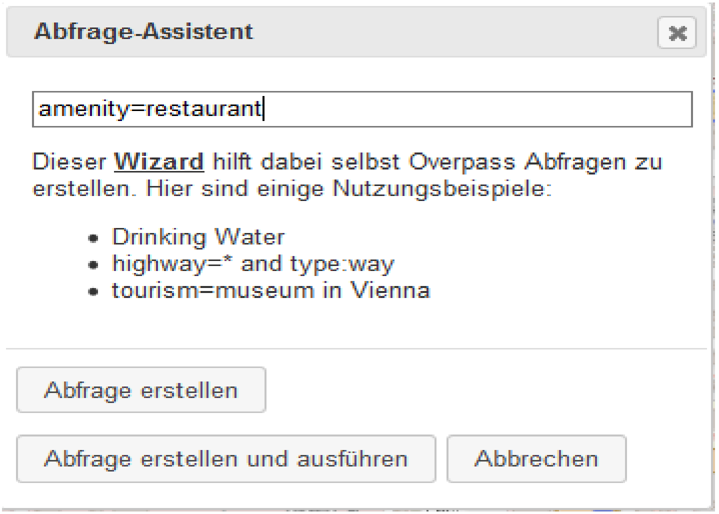
Weiterentwicklung der Abfrage

```
[out:json][timeout:25];
// fetch area “Böblingen” to search in
{{geocodeArea:Böblingen}}->.searchArea;
// gather results
(
nwr["amenity"="restaurant"][website](area.searchArea);
);
// print results
out body;
>; out skel qt;
```

Weiterentwicklung der Abfrage

```
[out:json][timeout:25];
// fetch area “Böblingen” to search in
{{geocodeArea:Böblingen}}->.searchArea;
// gather results
(
nwr["amenity"="restaurant"][website](area.searchArea);
nwr[tourism=hotel][website](area.searchArea);
);
// print results
out body;
>; out skel qt;
```

die Bounding Box



amenity=restaurant

Dieser **Wizard** hilft dabei selbst Overpass Abfragen zu erstellen. Hier sind einige Nutzungsbeispiele:

- Drinking Water
- highway=* and type:way
- tourism=museum in Vienna

```
[out:json][timeout:25];
// gather results
(
  // query part for: “amenity=restaurant”
  node["amenity"="restaurant"]({{bbox}});
  way["amenity"="restaurant"]({{bbox}});
  relation["amenity"="restaurant"]({{bbox}});
);
// print results
out body;
>;
out skel qt;
```

Verknüpfungen

- Union

```
(
nwr[amenity=restaurant][website](area.searchArea);
nwr[tourism=hotel][website](area.searchArea);
);
```

- Differenz

```
(
nwr[amenity=restaurant](area.searchArea);
- nwr[amenity=restaurant][website](area.searchArea);
);
```

Ausgabe

- **Format**

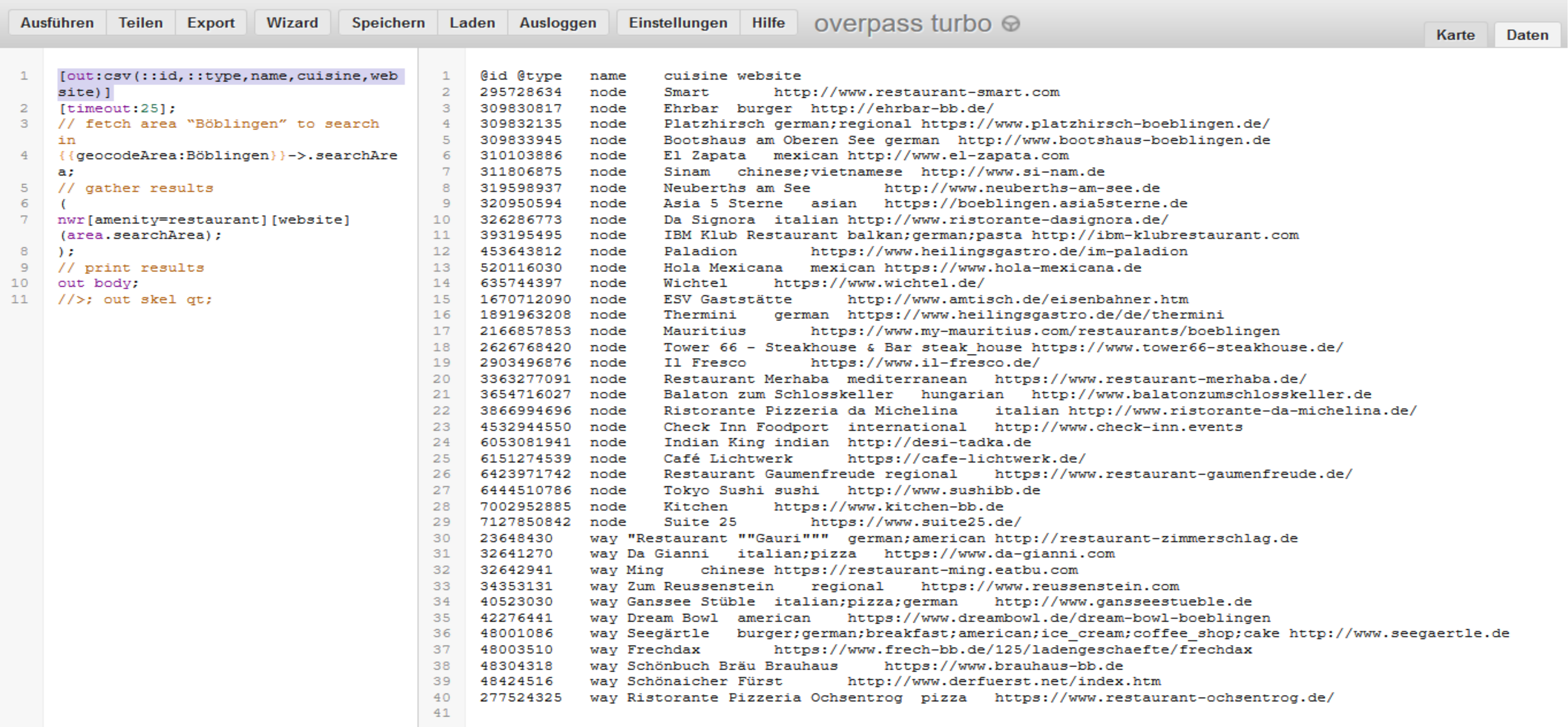
  [out:json] **[out:xml]**
  [**out:csv**(fieldname_1 [,fieldname_n ...] [; csv-header [; csv-separator]])]
  [**out:csv**(::id,::type,name,cuisine,website)]

- **Daten**

  out body;
  ids: Print only the ids of the elements in the set
  skel: Print the minimum information necessary for geometry
  body: Print all information necessary to use the data
  tags: Print only ids and tags for each element
  meta: Print everything known about the elements
  count: Print number of found elements

  >; out skel qt;

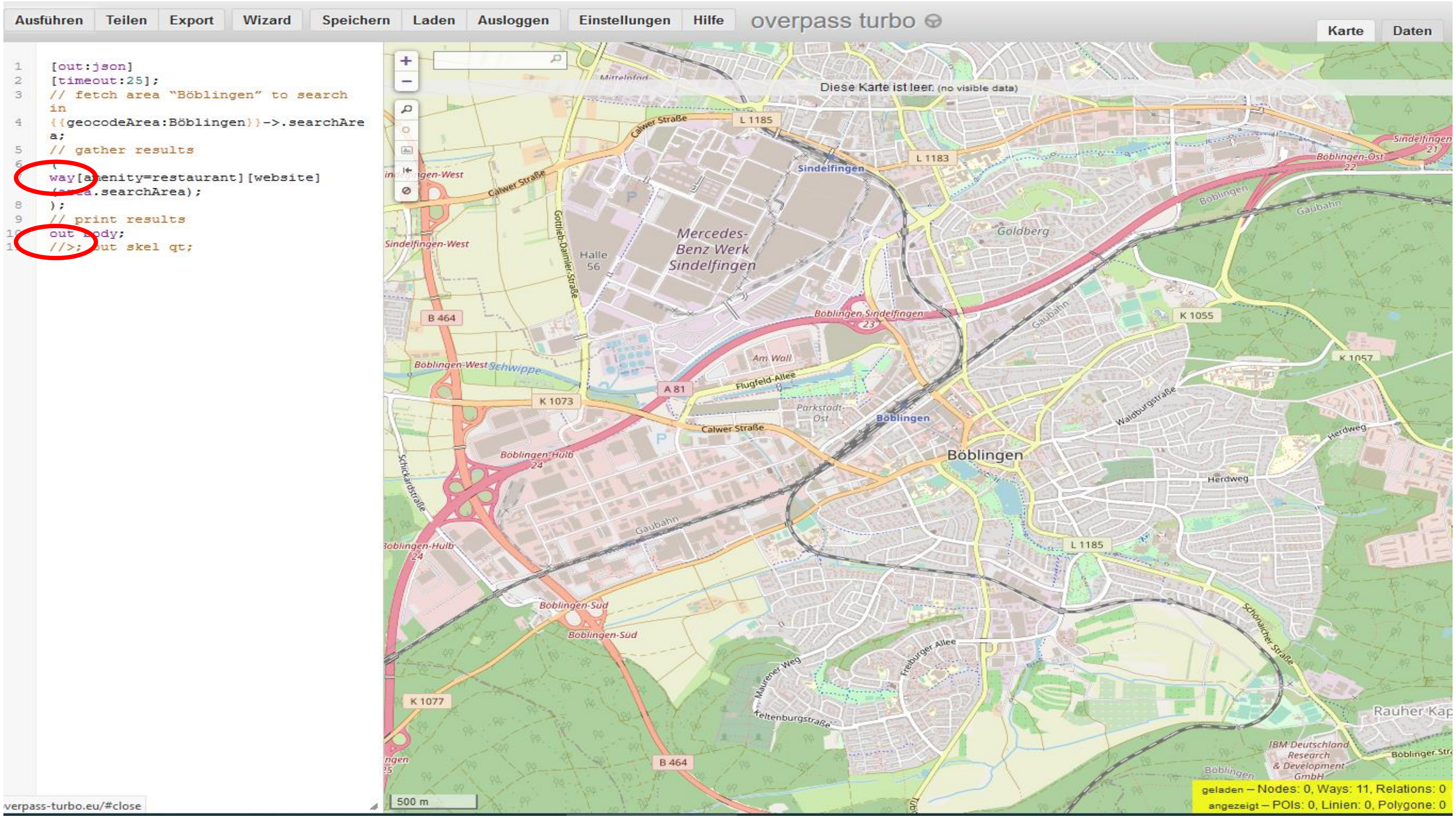
Ausgabe



```
[out:csv(::id,::type,name,cuisine,website)]
[timeout:25];
// fetch area “Böblingen” to search in
{{geocodeArea:Böblingen}}->.searchArea;
// gather results
(
nwr[amenity=restaurant][website](area.searchArea);
);
// print results
out body;
//>; out skel qt;
```

```
@id @type   name    cuisine website
295728634   node    Smart       http://www.restaurant-smart.com
309830817   node    Ehrbar  burger  http://ehrbar-bb.de/
309832135   node    Platzhirsch german;regional https://www.platzhirsch-boeblingen.de/
309833945   node    Bootshaus am Oberen See german  http://www.bootshaus-boeblingen.de
310103886   node    El Zapata   mexican http://www.el-zapata.com
311806875   node    Sinam   chinese;vietnamese  http://www.si-nam.de
319598937   node    Neuberths am See        http://www.neuberths-am-see.de
320950594   node    Asia 5 Sterne   asian   https://boeblingen.asia5sterne.de
326286773   node    Da Signora  italian http://www.ristorante-dasignora.de/
393195495   node    IBM Klub Restaurant balkan;german;pasta http://ibm-klubrestaurant.com
453643812   node    Paladion        https://www.heilingsgastro.de/im-paladion
520116030   node    Hola Mexicana   mexican https://www.hola-mexicana.de
635744397   node    Wichtel     https://www.wichtel.de/
1670712090  node    ESV Gaststätte      http://www.amtisch.de/eisenbahner.htm
1891963208  node    Thermini    german  https://www.heilingsgastro.de/de/thermini
2166857853  node    Mauritius       https://www.my-mauritius.com/restaurants/boeblingen
2626768420  node    Tower 66 - Steakhouse & Bar steak_house https://www.tower66-steakhouse.de/
2903496876  node    Il Fresco       https://www.il-fresco.de/
3363277091  node    Restaurant Merhaba  mediterranean   https://www.restaurant-merhaba.de/
3654716027  node    Balaton zum Schlosskeller   hungarian   http://www.balatonzumschlosskeller.de
3866994696  node    Ristorante Pizzeria da Michelina    italian http://www.ristorante-da-michelina.de/
4532944550  node    Check Inn Foodport  international   http://www.check-inn.events
6053081941  node    Indian King indian  http://desi-tadka.de
6151274539  node    Café Lichtwerk      https://cafe-lichtwerk.de/
6423971742  node    Restaurant Gaumenfreude regional    https://www.restaurant-gaumenfreude.de/
6444510786  node    Tokyo Sushi sushi   http://www.sushibb.de
7002952885  node    Kitchen     https://www.kitchen-bb.de
7127850842  node    Suite 25        https://www.suite25.de/
23648430    way "Restaurant ""Gauri"""  german;american http://restaurant-zimmerschlag.de
32641270    way Da Gianni   italian;pizza   https://www.da-gianni.com
32642941    way Ming    chinese https://restaurant-ming.eatbu.com
34353131    way Zum Reussenstein    regional    https://www.reussenstein.com
40523030    way Ganssee Stüble  italian;pizza;german    http://www.gansseestueble.de
42276441    way Dream Bowl  american    https://www.dreambowl.de/dream-bowl-boeblingen
48001086    way Seegärtle   burger;german;breakfast;american;ice_cream;coffee_shop;cake http://www.seegaertle.de
48003510    way Frechdax        https://www.frech-bb.de/125/ladengeschaefte/frechdax
48304318    way Schönbuch Bräu Brauhaus     https://www.brauhaus-bb.de
48424516    way Schönaicher Fürst       http://www.derfuerst.net/index.htm
277524325   way Ristorante Pizzeria Ochsentrog  pizza   https://www.restaurant-ochsentrog.de/
```

Ausgabe

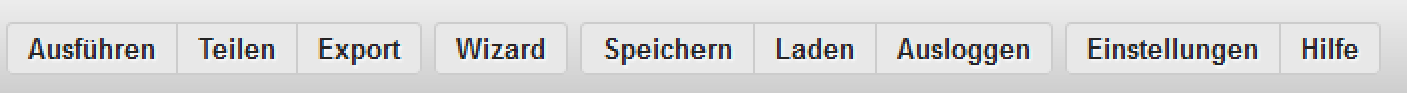


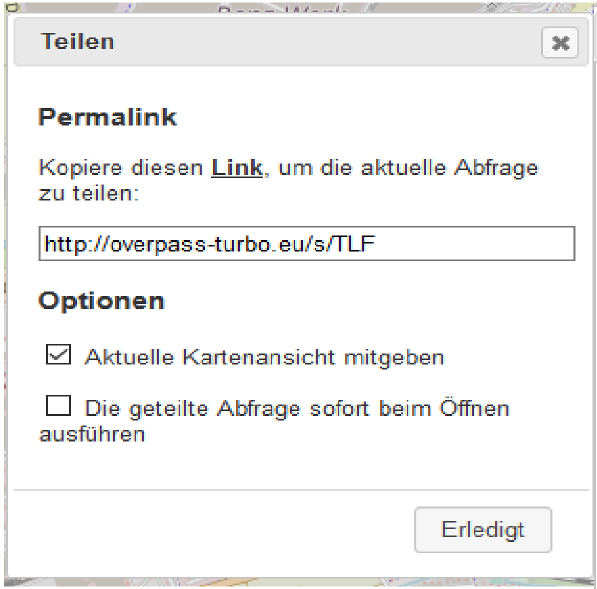
```
[out:json]
[timeout:25];
// fetch area “Böblingen” to search
in
{{geocodeArea:Böblingen}}->.searchAre
a;
// gather results
(
way[amenity=restaurant][website]
(area.searchArea);
);
// print results
out body;
//>; out skel qt;
```

Diese Karte ist leer. (no visible data)

geladen – Nodes: 0, Ways: 11, Relations: 0
angezeigt – POIs: 0, Linien: 0, Polygone: 0

Kommandos





Permalink

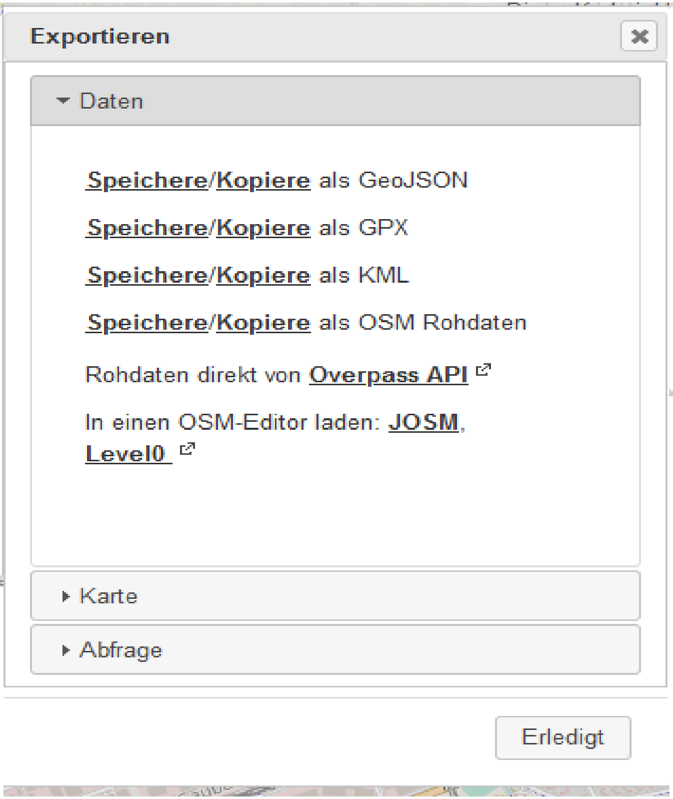
Kopiere diesen **Link**, um die aktuelle Abfrage zu teilen:

http://overpass-turbo.eu/s/TLF

Optionen

☑ Aktuelle Kartenansicht mitgeben

☐ Die geteilte Abfrage sofort beim Öffnen ausführen



Speichere/**Kopiere** als GeoJSON

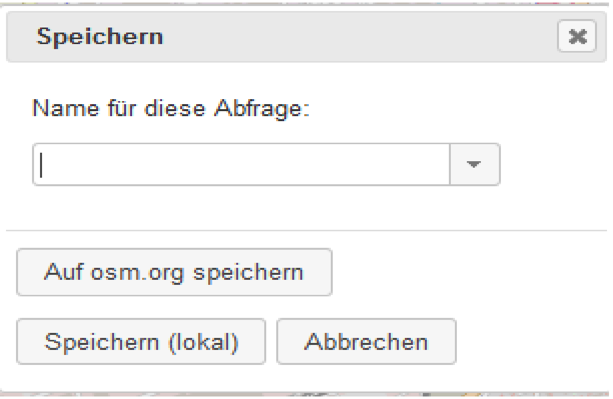
Speichere/**Kopiere** als GPX

Speichere/**Kopiere** als KML

Speichere/**Kopiere** als OSM Rohdaten

Rohdaten direkt von **Overpass API**

In einen OSM-Editor laden: **JOSM**, **Level0**



Name für diese Abfrage:

Warnungen

- Syntax muss exakt eingehalten werden
- Fehlermeldungen teils kryptisch
- Einschließen von keys/values in " " schadet nie
- Verwendung von „;“ teils ungewöhnlich
- Vorsicht bei großen Datenmengen: Browser „stirbt“
- Bei Kartenausgabe   >; out skel qt;   nicht vergessen
- Kommentare //, /* */ machen das Leben leichter
- Overpass hat eigene Datenbasis: einige Min. Lag

weitere Themen

- **Value matches regular expression (~, !~)**
- **Area (ähnlich geocoding)**

```
( area[admin_level=6][name="Landkreis Ludwigsburg"];
  area[admin_level=6][name="Landkreis Böblingen"];
  area[admin_level=6][name="Landkreis Esslingen"];
  area[admin_level=6][name="Rems-Murr-Kreis"];
  area[admin_level=6 ][name="Stuttgart"]; ) ->.sarea;
```

- **Verwendung von Variablen**
- **Einbindung in Tools: JOSM, UMAP (Heiko 2019)**
- **Zeitabfragen (newer, date, diff)**
- **Evaluators**
- **CSS**

regular expression / Variablen

```
[timeout:180];
nwr[~"^.*:covid19$"~"."]({{bbox}});
out meta;

{{LK="Landkreis Esslingen"}}
area[admin_level=6][name={{LK}}]->.searchArea;
```