Map Server

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1 About

Map server will fetch openstreetmap data from local postgis database and renders map on client.
The rendered map will need to be cached for faster response.

2 Reference Links

1. http://maptools.org/

2. https://switch2osm.org/

3. http://blog.geoserver.org/2009/01/30/geoserver-and-openstreetmap/

4. http://giscollective.org/tutorials/web-mapping/wmsseven/

5. http://www.axismaps.com/blog/2012/01/dont-panic-an-absolute-beginners-guide-to-building-a-map-server/

6. http://weait.com/content/build-your-own-openstreetmap-server

7. http://alistapart.com/article/takecontrolofyourmaps

8. http://www.emacsen.net/osm/osm-web-tutorial.pdf

3 OSM India data

Get osm.pbf or osm.bz2 file from download.geofabrik.de . typically 300MB file.

4   prerequisite installation

1. sudo apt-get install python-software-properties

2. sudo add-apt-repository ppa:mapnik/boost

3. sudo apt-get update

4. sudo apt-get install libboost-dev libboost-filesystem-dev libboost-program-options-dev libboost-python-dev libboost-regex-dev libboost-system-dev libboost-thread-dev

5. sudo apt-get install subversion git-core tar unzip wget bzip2 build-essential autoconf libtool libxml2-dev libgeos-dev libpq-dev libbz2-dev proj munin-node munin libprotobuf-c0-dev protobuf-c-compiler libfreetype6-dev libpng12-dev libtiff4-dev libicu-dev libgdal-dev libcairo-dev libcairomm-1.0-dev apache2 apache2-dev libagg-dev liblua5.2-dev ttf-unifont

5   DB Setup

1. Here postgres-9.1 is used, you can use another version

2. Install postgres , sudo apt-get install postgresql-9.1 postgresql-contrib-9.1 postgresql-9.1-postgis

3. creating "travelbaba" super user, sudo -u postgres createuser -s travelbaba

4. creating db with name "gis", sudo -u postgres createdb -O travelbaba gis

5. alter user travelbaba with password 'travelbaba';

6. enabling hstore extensions, psql -d gis -c 'create extension hstore;'

7. enabling postgis extension, in case psql -d gis -c 'create extension postgis;' dosent work try the below commands

    (a) psql -d gis -f /usr/share/postgresql/9.1/contrib/postgis-1.5/postgis.sql
    (b) psql -d gis -f /usr/share/postgresql/9.1/contrib/postgis-1.5/spatial_ref_sys.sql
    (c) psql -d gis -c 'grant all on geometry_columns to public'
    (d) psql -d gis -c 'grant all on spatial_ref_sys to public'
    (e) psql -d gis -c 'grant all on geography_columns to public'

6   Installing osm2pgsql

1. git clone https://github.com/openstreetmap/osm2pgsql

2. ./autogen.sh

3. ./configure

4. make

5. sudo make install

6. psql -f /usr/local/share/osm2pgsql/900913.sql -d gis

7   Dumping data to gis

osm2pgsql –create –slim –cache 1000 –hstore –style /usr/share/osm2pgsql/default.style –multi-geometry '/home/crusaderwolf/Desktop/india-latest.osm.pbf' –number-processes 4

8   Installing map renderer-mapnik

1. sudo add-apt-repository ppa:mapnik/nightly-2.0

2. sudo apt-get update

3. sudo apt-get install libmapnik mapnik-utils python-mapnik

9   Installing Tilestasche , for caching

1. sudo apt-get install libapache2-mod-python && sudo /etc/init.d/apache2 restart

2. cd /etc

3. sudo apt-get install curl git-core python-setuptools python-dev libjpeg8 libjpeg62-dev libfreetype6 libfreetype6-dev

4. sudo curl -O https://raw.githubusercontent.com/pypa/pip/master/contrib/get-pip.py

5. sudo pip install -U werkzeug

6. sudo pip install -U simplejson

7. sudo pip install -U modestmaps

8. sudo pip install -U pil

9. sudo git clone https://github.com/migurski/TileStache.git

10. cd TileStache/

11. sudo python setup.py install

12. sudo vi /etc/apache2/httpd.conf
    and add
    <Directory /var/www/tiles>
    AddHandler mod_python .py
    PythonHandler TileStache::modpythonHandler
    PythonOption config /etc/TileStache/tilestache.cfg
    </Directory>

10   Check TileStasche is installed

Go to http://127.0.1.1/tiles/tiles.py/osm/preview.html , to render a map.
In case its not working check error logs of apache2
Some plausible fixes

1. sudo apt-get install libjpeg-dev libjpeg8-dev

2. sudo ln -s /usr/lib/x86_64-linux-gnu/libjpeg.so /usr/lib

3. sudo ln -s /usr/lib/x86_64-linux-gnu/libfreetype.so /usr/lib

4. sudo ln -s /usr/lib/x86_64-linux-gnu/libz.so /usr/lib

5. sudo pip uninstall pil

6. sudo pip install pil

7. also try sudo apt-get install python-imaging

11 mapnik is working?

execute the mapnik.py it should create a map.png, before that change path to mapnik.xml
if peer authentication issues arise
edit pg_hba.conf in /etc/postgresql/9.1/main, replace local all all peer to local all all md5

12 configure tilestasche to use mapnik

in /etc/TileStache edit tilestache.cfg ; "provider": "name": "mapnik", "mapfile": "path_to/mapnik.xml" ... path_to/mapnik.xml is the mapnik.xml

13 Finally hit the url

sudo service postgresql restart
sudo service apache2 restart
Then go to http://127.0.1.1/tiles/tiles.py/example/preview.html#5/21.714/81.993
You should see India skeleton route map

14 Summary

OpenStreetMap Data gets stored in
PostGIS Database which is accessed by
Mapnik to draw map tiles for
TileStache which sends them to
Web Browser