GPS Data Analyzer Manual

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1. Installing Required Softwares

This manual is using **Ubuntu 12.04 LTS** Linux distribution with Python version 2.7

1.1 Python

Issue this following command to install Python related packages:

```
$ sudo apt-get install python2.7 python-psycopg2
```

By default Python should be has already installed on the Linux system.

2. Database Deployment

Create a table on a specific database, the table schema can be found in **database.sql** file in **gpsanalyzer.tar.gz** tarball. Follow this command to create a database named **analysis** and related tables with user **postgres**

```
$ cd analyzer
$ psql -h localhost -U postgres -c “CREATE DATABASE analysis”
$ psql -h localhost -U postgres analysis < database.sql
```

3. Configuration

Configuration can be changed by editing **analyzer.conf** file, the following table describes each of configuration key.

Key name	Default value	Description
aggregator-script	aggregator.py	The file location of aggregator script to use
aggregator-config	aggregator.conf	The file location of aggregator configuration to use
previous-days	1	The number of previous day to use as start of report
dbhost	localhost	Database host or IP address
dbport	5432	Database port
dbuser	postgres	Database username
dbpasswd	postgres	Database password
dbname	analysis	Database name
dbgeotable	geoanalysis	Database table for geographic analysis report
dbclienttable	clientanalysis	Database table for client analysis report

4. Running

To run the aggregator use this following command template:

```
$ ./analyzer.py <configuration-file>
```

Examples:

```
$ ./analyzer.py test.conf
```

Will run with all parameters that has read from **test.conf** configuration file.

Example output

```
$ ./analyzer.py test.conf
Running aggregator for geographic analysis with PID 3135...

Boundary: corner1=40.617055,-89.461143  corner2=40.798627,-89.641881 length=20189.885m width=15255.292m
Adjusted Boundary: corner1=40.617055,-89.461143  corner2=40.798628,-89.641937 length=20189.996m
width=15260.019m
Grid Box: size=10m x=2019 y=1526 total=3080994
Time: mode=hours-range start=1401724800 end=1401811140
Clients: macbooklocal pidrive pibattery demo macbookverizon macbookcar
Max. Motionless: 0 second(s)
Pruning Inclusion: yes

Running query... done 3685 row(s)
...

Running aggregator for client analysis with PID 3154...

Boundary: corner1=40.617055,-89.461143  corner2=40.798627,-89.641881 length=20189.885m width=15255.292m
Adjusted Boundary: corner1=40.617055,-89.461143  corner2=40.798628,-89.641937 length=20189.996m
width=15260.019m
Grid Box: size=10m x=2019 y=1526 total=3080994
Time: mode=hours-range start=1401724800 end=1401811140
Clients: macbookverizon
Max. Motionless: 0 second(s)
Pruning Inclusion: yes

Running query... done 3685 row(s)
...
```

4. Problem and Solving

Some known error messages

Error message	Resolution
Unable to read configuration file	Given analyzer's configuration file is not readable
Unable to read aggregator configuration file	Aggregator configuration file is not readable
Unable to write aggregator configuration	Aggregator configuration file is not writeable, (i.e permission issue, invalid location)
Unable to run aggregator	Aggregator script was not found to be executed

Please refer to Data Aggregator manual for aggregator related errors

4.2. Examine Database Record

Each record should be self-explained in **database.sql** file.