Dynamic Bus Scheduling

SYSTEM REQUIREMENTS

Operating System: Linux (Tested on Ubuntu 16.04)

Programming Languages:

- **Python:** Tested on Python 2.7.12

- **JavaScript:** Tested on Node.js 6.7.0

Tools – Packages – Libraries:

1. **pip:** The PyPA recommended tool for installing Python packages.

   Installation: https://pip.pypa.io/en/stable/installing/

   For Ubuntu 16.04: $ sudo apt-get install python-pip

2. **NumPy:** The fundamental package for scientific computing with Python.

   Installation: http://www.scipy.org/scipylib/download.html

   For Ubuntu 16.04: $ sudo pip install numpy

3. **Requests:** An elegant and simple HTTP library for Python.

   Installation: http://docs.python-requests.org/en/master/user/install/#install

   For Ubuntu 16.04: $ sudo pip install requests

4. **Imposm:** An importer for OpenStreetMap data which reads XML and PBF files.

   Installation: https://imposm.org/docs/imposm/latest/install.html

   For Ubuntu 16.04: $ sudo pip install imposm

5. **Gunicorn:** "Green Unicorn" is a Python WSGI HTTP Server for UNIX, broadly compatible with various web frameworks, simply implemented, light on server resources, and fairly speedy.

   Installation: http://gunicorn.org/

   For Ubuntu 16.04: $ sudo pip install gunicorn

6. **Greenlet:** A Python package which introduces a primitive notion of micro-threads, with no implicit scheduling; coroutines, in other words.

   Installation: `https://greenlet.readthedocs.io/en/latest/`

   For Ubuntu 16.04: `$ sudo pip install greenlet`

7. **Eventlet:** A concurrent networking library for Python.

   Installation: `http://eventlet.net/`

   For Ubuntu 16.04: `$ sudo pip install eventlet`

8. **gevent:** A coroutine-based Python networking library that uses greenlet to provide a high-level synchronous API on top of the libev event loop.

   Installation: `http://www.gevent.org/`

   For Ubuntu 16.04: `$ sudo pip install gevent`

9. **Node.js:** A JavaScript runtime built on Chrome's V8 JavaScript engine, which uses an event-driven, non-blocking I/O model that makes it lightweight and efficient.

   Installation: `https://nodejs.org/`

   For Ubuntu 16.04: `$ sudo apt-get install nodejs`

10. **npm:** Node.js' package ecosystem, npm, is the largest ecosystem of open source libraries in the world.

    For Ubuntu 16.04: `$ sudo apt-get install npm`

11. **N3.js:** Lightning fast, asynchronous, streaming Turtle / N3 / RDF library.

    Installation: `https://www.npmjs.com/package/n3`

    For Ubuntu 16.04: `$ sudo npm install n3`

12. **amqplib:** An AMQP 0-9-1 (e.g., RabbitMQ) library and client.

    Installation: `https://www.npmjs.com/package/amqplib`

    For Ubuntu 16.04: `$ sudo npm install amqplib`

13. **MongoDB:** An open-source, document database designed for ease of development and scaling. Tested on MongoDB shell version 3.2.10.

    Installation: `https://docs.mongodb.com/manual/installation/`

14. **pymongo:** The official MongoDB driver for Python.

    Installation: `http://api.mongodb.com/python/current/installation.html`

    For Ubuntu 16.04: `$ sudo pip install pymongo`

15. **mongodb:** The official MongoDB driver for Node.js.

    Installation: `https://www.npmjs.com/package/mongodb`

    For Ubuntu 16.04: `$ sudo npm install mongodb`