**PYTHON DEV SETUP**

* 1. Uninstall previous versions of Python if they exist (not required but preferred)
  2. Install Microsoft ODBC Driver 13.1 for SQL Server
     1. [*https://www.microsoft.com/en-us/download/details.aspx?id=53339*](https://www.microsoft.com/en-us/download/details.aspx?id=53339)
  3. Install Microsoft Command Line Utilities 13.1 for SQL Server
     1. [*https://www.microsoft.com/en-us/download/details.aspx?id=53591*](https://www.microsoft.com/en-us/download/details.aspx?id=53591)
  4. Install 64-bit Python (3.5) for Windows (install for all users - should install to C:\python35 directory)
     1. <https://www.python.org/ftp/python/3.5.2/python-3.5.2-amd64.exe>
        1. Select the second installation option (Customized) and there you have the option to manually check “Add Python to environment variables”. Check that, select/create the mentioned path and finish the installation.
     2. Open up a command prompt and type in "python -v" to make sure it's properly installed
        1. If it doesn't work, check that the below value is included in your "PATH" environment variable. You can view this by going right-click on *Computer desktop icon > Properties > Advanced System Settings > Environment Variables* (second section)
           1. **C:\python35;C:\Python35\Scripts;**
           2. Make sure there are no spaces and that it ends with a semi-cpipolon
  5. Install Git 64-bit for Windows
     1. <https://github.com/git-for-windows/git/releases/download/v2.9.2.windows.1/Git-2.9.2-64-bit.exe>
  6. Setup for using BitBucket
     1. Setup an account at <https://bitbucket.org> using your JLL email account
     2. Verify using activation email
     3. Send your username to Bryan (bryan.chavez@am.jll.com) so that an Invitation can be sent out for the project
     4. In command prompt:
        1. Go to **C:\Users\<FirstName.LastName>\** and create **PycharmProjects** directory
        2. Go into new directory **C:\Users\<FirstName.LastName>\PycharmProjects\**
        3. Run "git clone <https://bchavezjll@bitbucket.org/gdimjll/dq.git>"
  7. Install Microsoft Visual C++ Build Tools (dependency for some of the modules)

<http://landinghub.visualstudio.com/visual-cpp-build-tools>

* 1. Setup virtual environment (this lets you manage module dependencies for separate projects):
     1. In command prompt, go to **C:\Users\<FirstName.LastName>\PycharmProjects\dq\** directory
     2. Run commands:
        1. pip install virtualenv
        2. pip install virtualenvwrapper-win
        3. mkvirtualenv dq (this will automatically activate this virtual env)
           1. If you're command prompt starts with "(dq) C:…" then it's active
        4. pip install -r requirements.txt
           1. Sometimes the dependencies don't install in the proper order so look for the red errors and you can run an install for that module independently

For example: "pip install numpy" or if you need to upgrade "pip install --upgrade numpy"

* + - * 1. If you have issues with pyhacrf or python-crfsuite, follow these directions:

In command prompt, go to C:/Users/<FirstName.LastName>\Downloads directory

Run "git clone <https://github.com/scrapinghub/python-crfsuite.git>"

Run "git clone <https://github.com/chokkan/crfsuite.git>"

Run "git clone <https://github.com/chokkan/liblbfgs.git>"

Go to Windows explorer and move C:/Users/<FirstName.LastName>/Downloads/crfsuite/ into C:/Users/<FirstName.LastName>/Downloads/python-crfsuite/

Go to Windows explorer and move C:/Users/<FirstName.LastName>/Downloads/liblbfgs/ into C:/Users/<FirstName.LastName>/Downloads/python-crfsuite/

In command prompt go to C:/Users/<FirstName.LastName>/Downloads/python-crfsuite/

Type "workon dq"

Run "python setup.py install"

Run "pip install python-crfsuite" (this should have a clean install)

* + - * 1. Download Shapely‑1.5.17‑cp35‑cp35m‑win\_amd64.whl from <http://www.lfd.uci.edu/~gohlke/pythonlibs/#shapely>

Go to download directory and make sure your "dq" virtualenv is active, and run below in the command line:

"pip install Shapely-1.5.17-cp36-cp36m-win\_amd64.whl"

* + 1. **NOTES:**
       1. To switch to a virtual env, run "workon <virtual\_env\_name>
       2. To deactivate a virtual env, run "deactivate"
  1. Setup IDE and start new project
     1. Install JetBrains **PyCharm Community** version at <https://www.jetbrains.com/pycharm/download/download-thanks.html?platform=windows&code=PCC>
     2. Open up Pycharm Community edition
     3. Open existing project "dq" (navigate to **C:\Users\<FirstName.LastName>\PycharmProjects\dq\**)
     4. Change the interpreter to use python from the virtual environment
        1. *File > Settings > Project: dq > Project Interpreter > (Gear icon) > Add Local*
        2. Select **C:\Users\<FirstName.LastName>\Envs\dq\Scripts\python.exe**
     5. Modify settings:
        1. *File > Settings > Editor > General > Appearance > Show line numbers*
        2. *File > Settings > Editor > Code Style > Right margin (80) Wrap on typing*
     6. Add path to interpreter:

Go to File > Settings > Project: dq > Project Interpreter

Click on the Gear button on top-right of window, go to "More…" on the hover box

Click on the bottom icon ("Show paths for the selected interpreter")

Click on the "+" button

Traverse to you C:\Users\<first>.<last>\Envs\dq\Lib\site-packages\python-crfsuite\* and click OK

* 1. Read dq/demos/notes.txt in the project
  2. Go through scripts in dq/demos/ folder to learn basic functionality