

CS 3100 Jupyter install instructions

February 24, 2019

1 Download

Download Anaconda for Python 3:

- Linux: 64-bit¹ 32-bit²
- Mac: 64-bit³
- Windows: 64-bit⁴ 32-bit⁵

2 Linux install

Start the installer (instructions assume 64-bit)

To install system-wide:

```
sudo -H bash Anaconda3-4.4.0-Linux-x86_64.sh
```

To install only for your user:

```
bash Anaconda3-4.4.0-Linux-x86_64.sh
```

In the installer, do the following: - View the license and accept it - Choose where to install (you can press enter for the default) - Answer “yes” to having the Anaconda path prepended to your PATH

Exit that terminal and open a new one. Make sure the **jupyter** found is the one you installed

```
which jupyter
```

This should return a path in the directory where you installed Anaconda 3. It will be similar to
`/home/bentley/anaconda3/bin/jupyter`

Install the graphviz command-line module (use `sudo -H` if you installed Anaconda 3 system-wide)

```
conda install graphviz
```

Now install the python module for using graphviz. First, make sure the **pip** tool used is the one from the Anaconda 3 install.

¹https://repo.continuum.io/archive/Anaconda3-4.4.0-Linux-x86_64.sh

²<https://repo.continuum.io/archive/Anaconda3-4.4.0-Linux-x86.sh>

³https://repo.continuum.io/archive/Anaconda3-4.4.0-MacOSX-x86_64.pkg

⁴https://repo.continuum.io/archive/Anaconda3-4.4.0-Windows-x86_64.exe

⁵<https://repo.continuum.io/archive/Anaconda3-4.4.0-Windows-x86.exe>

```
which pip
```

Now for the installing of the graphviz python module. If you installed Anaconda 3 into your home directory, then do the following:

```
pip install graphviz
```

If you installed Anaconda 3 system-wide, you can install the graphviz module system-wide:

```
sudo -H $(which pip) install graphviz
```

Notice the `$(which pip)` since the root account may not have the same `PATH` as you. Or you can install graphviz into only your home directory:

```
pip install --user graphviz
```

Go to Make sure the install works section at the end to verify correct installation.

3 Mac install

Run the installer installing into your home directory. Open a terminal. Install the graphviz command-line tools.

```
conda install graphviz
```

Now install the graphviz python module

```
pip install graphviz
```

Go to Make sure the install works section at the end to verify correct installation.

3.1 Windows install

Run the installer installing into your home directory. You do not need to add the Anaconda 3 directories to your system `PATH`.

After the install, open an Anaconda Prompt (go to the start menu and search “Anaconda Prompt”). Note that if you ignored the advise to install in your home directory, you will want to right-click on the Anaconda Prompt icon and select “Run as Administrator”.

In this prompt, install graphviz

```
conda install graphviz
```

Now install the python graphviz module

```
pip install graphviz
```

Now the graphviz module (or arguably the subprocess module) has a bug that we will need to work around. Basically, calling `subprocess.check_call(['dot'])` doesn’t match with `dot.bat` that is in the system `PATH`. There are two fixes for this. Choose whichever one you want.

The first is to add the graphviz command-line tool directory to your system path - Open the control panel - Search for “environment” and click on “Edit environment variables for your account”. Double click on “Path” in the top half of the window. Add the path for graphviz, which should be something like this: `C:\Users\<username>\Anaconda3\Library\bin\graphviz` - Close all command prompts and open them again to have updated PATH variables

The second is to replace `dot` with `dot.bat` in the graphviz python module. - Navigate to the graphviz python module directory, for example `C:\Users\<username>\Anaconda3\Lib\site-packages\graphviz` - Open in a text editor `files.py` and `backend.py` - Around line 19 in both files, replace `'dot'` with `'dot.bat'` (in `files.py`, it is the value of `_engine`, and in `backend.py` it is a value in the `ENGINES` set)

Go to Make sure the install works (Section 4) section at the end to verify correct installation.

4 Make sure the install works

Now, start the Jupyter notebook

```
jupyter notebook
```

If this doesn't open a browser to your notebook, it should print instructions on what to do. Primarily it should give you something to copy and paste into a browser.

Try out some graph generation in your Jupyter notebook. Enter the following in the first cell and press Shift-Enter.

```
import graphviz
g = graphviz.Graph()
g.edges(['AB', 'BC', 'CD', 'DA'])
g
```