

Assignment: Creating, Using, and Deleting Conda Environments

A *conda environment* is a virtual environment implemented as a folder that contains conda packages you have installed. A primary motivation to use virtual environments is to manage dependencies. For example, you may have a legacy project that requires an earlier version of `numpy` or `pandas` and a separate project for which you prefer to use the most recent versions. To accomplish this, you create virtual environments and specify the version of packages needed for that environment. Additionally, having unnecessary packages in your environment leads to inefficiencies and a higher probability of conflict.

For this reason, if you are doing specialized work (e.g., a project that requires modules that you don't typically use), you may want to create an environment specifically for that project.

If you have used `pip` and `virtualenv` in the past, you can use `conda` to perform all of the same operations. `Pip` is a package manager and `virtualenv` is an environment manager. `Conda` is both.

This tutorial is only an overview. For a much more detailed understanding of `conda`, see the docs (<https://docs.conda.io/projects/conda/en/latest/user-guide/index.html>).

To work with `conda` *within* this notebook, we'll use magic commands.

Magics are specific to and provided by the IPython kernel. Whether Magics are available on a kernel is a decision that is made by the kernel developer on a per-kernel basis. To work properly, Magics must use a syntax element which is not valid in the underlying language. For example, the IPython kernel uses the `%` syntax element for Magics as `%` is not a valid unary operator in Python. (see <https://ipython.readthedocs.io/en/stable/interactive/magics.html> for more info).

```
In [1]: # List the folders and files in the current directory. This can be useful
        # for determining where an output file was written when using a relative path.
        %ls
```

```
Volume in drive C is Windows-SSD
Volume Serial Number is 46F9-86EA
```

```
Directory of C:\Users\jbrun\Desktop\UA 2020 - Copy\MIS 1\Module 3 Assignments
```

```
06/11/2020  04:59 PM    <DIR>          .
06/11/2020  04:59 PM    <DIR>          ..
06/11/2020  02:13 PM    <DIR>          .ipynb_checkpoints
06/11/2020  02:13 PM                5,911 John-Bruno-M3-A1-Working with Anaconda Environments.py
06/11/2020  04:59 PM                73,733 M3-A1 Working with Anaconda Environments.ipynb
                2 File(s)                79,644 bytes
                3 Dir(s)   304,348,962,816 bytes free
```

```
In [2]: # List the packages in the current environment.
        %conda list
```

```
# packages in environment at C:\Users\jbrun\anaconda3:
#
# Name                                Version                                Build      Channel
_ipyw_jlab_nb_ext_conf               0.1.0                                py37_0
alabaster                             0.7.12                               py37_0
anaconda                              2020.02                              py37_0
anaconda-client                       1.7.2                                py37_0
anaconda-navigator                    1.9.12                               py37_0
anaconda-project                      0.8.4                                py_0
argh                                  0.26.2                               py37_0
asn1crypto                            1.3.0                                py37_0
astroid                               2.3.3                                py37_0
astropy                               4.0                                  py37he774522_0
atomicwrites                          1.3.0                                py37_1
attrs                                 19.3.0                               py_0
autopep8                              1.4.4                                py_0
babel                                 2.8.0                                py_0
backcall                              0.1.0                                py37_0
backports                             1.0                                  py_2
backports.functools_lru_cache         1.6.1                                py_0
backports.shutil_get_terminal_size    1.0.0                                py37_2
backports.tempfile                    1.0                                  py_1
backports.weakref                     1.0.post1                            py_1
bcrypt                                 3.1.7                                py37he774522_0
beautifulsoup4                        4.8.2                                py37_0
bitarray                              1.2.1                                py37he774522_0
bkcharts                              0.2                                  py37_0
blas                                  1.0                                  mkl
bleach                                3.1.0                                py37_0
blosc                                  1.16.3                               h7bd577a_0
bokeh                                  1.4.0                                py37_0
boto                                   2.49.0                               py37_0
bottleneck                            1.3.2                                py37h2a96729_0
bzip2                                 1.0.8                                he774522_0
ca-certificates                       2020.1.1                             0
certifi                               2019.11.28                           py37_0
cffi                                  1.14.0                               py37h7a1dbcl_0
chardet                               3.0.4                                py37_1003
click                                 7.0                                  py37_0
cloudpickle                           1.3.0                                py_0
clyent                                1.2.2                                py37_1
colorama                              0.4.3                                py_0
comtypes                              1.1.7                                py37_0
conda                                  4.8.3                                py37hc8dfbb8_1      conda-forge
conda-build                           3.18.11                              py37_0
conda-env                              2.6.0                                1
conda-package-handling                1.6.0                                py37h62dcd97_0
conda-verify                          3.4.2                                py_1
console_shortcut                      0.1.1                                4
contextlib2                           0.6.0.post1                          py_0
cryptography                          2.8                                  py37h7a1dbcl_0
curl                                  7.68.0                               h2a8f88b_0
cyclor                                0.10.0                               py37_0
cython                                0.29.15                              py37ha925a31_0
cytoolz                               0.10.1                              py37he774522_0
dask                                  2.11.0                               py_0
```

dask-core	2.11.0	py_0
decorator	4.4.1	py_0
defusedxml	0.6.0	py_0
diff-match-patch	20181111	py_0
distributed	2.11.0	py37_0
docutils	0.16	py37_0
entrypoints	0.3	py37_0
et_xmlfile	1.0.1	py37_0
fastcache	1.1.0	py37he774522_0
filelock	3.0.12	py_0
flake8	3.7.9	py37_0
flask	1.1.1	py_0
freetype	2.9.1	ha9979f8_1
fsspec	0.6.2	py_0
future	0.18.2	py37_0
get_terminal_size	1.0.0	h38e98db_0
gevent	1.4.0	py37he774522_0
glob2	0.7	py_0
greenlet	0.4.15	py37hfa6e2cd_0
h5py	2.10.0	py37h5e291fa_0
hdf5	1.10.4	h7ebc959_0
heapdict	1.0.1	py_0
html5lib	1.0.1	py37_0
hypothesis	5.5.4	py_0
icc_rt	2019.0.0	h0cc432a_1
icu	58.2	ha66f8fd_1
idna	2.8	py37_0
imageio	2.6.1	py37_0
imagesize	1.2.0	py_0
importlib_metadata	1.5.0	py37_0
intel-openmp	2020.0	166
intervaltree	3.0.2	py_0
ipykernel	5.1.4	py37h39e3cac_0
ipython	7.12.0	py37h5ca1d4c_0
ipython_genutils	0.2.0	py37_0
ipywidgets	7.5.1	py_0
isort	4.3.21	py37_0
itsdangerous	1.1.0	py37_0
jdcal	1.4.1	py_0
jedi	0.14.1	py37_0
jinja2	2.11.1	py_0
joblib	0.14.1	py_0
jpeg	9b	hb83a4c4_2
json5	0.9.1	py_0
jsonschema	3.2.0	py37_0
jupyter	1.0.0	py37_7
jupyter_client	5.3.4	py37_0
jupyter_console	6.1.0	py_0
jupyter_core	4.6.1	py37_0
jupyterlab	1.2.6	pyhf63ae98_0
jupyterlab_server	1.0.6	py_0
keyring	21.1.0	py37_0
kiwisolver	1.1.0	py37ha925a31_0
krb5	1.17.1	hc04afaa_0
lazy-object-proxy	1.4.3	py37he774522_0
libarchive	3.3.3	h0643e63_5
libcurl	7.68.0	h2a8f88b_0

libiconv	1.15	h1df5818_7	
liblief	0.9.0	ha925a31_2	
libpng	1.6.37	h2a8f88b_0	
libsodium	1.0.16	h9d3ae62_0	
libspatialindex	1.9.3	h33f27b4_0	
libssh2	1.8.2	h7a1dbc1_0	
libtiff	4.1.0	h56a325e_0	
libxml2	2.9.9	h464c3ec_0	
libxslt	1.1.33	h579f668_0	
llvmlite	0.31.0	py37ha925a31_0	
locket	0.2.0	py37_1	
lxml	4.5.0	py37h1350720_0	
lz4-c	1.8.1.2	h2fa13f4_0	
lzo	2.10	h6df0209_2	
m2w64-gcc-libgfortran	5.3.0	6	
m2w64-gcc-libs	5.3.0	7	
m2w64-gcc-libs-core	5.3.0	7	
m2w64-gmp	6.1.0	2	
m2w64-libwinpthread-git	5.0.0.4634.697f757	2	
markupsafe	1.1.1	py37he774522_0	
matplotlib	3.1.3	py37_0	
matplotlib-base	3.1.3	py37h64f37c6_0	
mccabe	0.6.1	py37_1	
menuinst	1.4.16	py37he774522_0	
mistune	0.8.4	py37he774522_0	
mk1	2020.0	166	
mk1-service	2.3.0	py37hb782905_0	
mk1_fft	1.0.15	py37h14836fe_0	
mk1_random	1.1.0	py37h675688f_0	
mock	4.0.1	py_0	
more-itertools	8.2.0	py_0	
mpmath	1.1.0	py37_0	
msgpack-python	0.6.1	py37h74a9793_1	
msys2-conda-epoch	20160418	1	
multipledispatch	0.6.0	py37_0	
navigator-updater	0.2.1	py37_0	
nbconvert	5.6.1	py37_0	
nbformat	5.0.4	py_0	
networkx	2.4	py_0	
nltk	3.4.5	py37_0	
nodejs	0.1.1	pypi_0	pypi
nose	1.3.7	py37_2	
notebook	6.0.3	py37_0	
npm	0.1.1	pypi_0	pypi
numba	0.48.0	py37h47e9c7a_0	
numexpr	2.7.1	py37h25d0782_0	
numpy	1.18.1	py37h93ca92e_0	
numpy-base	1.18.1	py37hc3f5095_1	
numpydoc	0.9.2	py_0	
olefile	0.46	py37_0	
openpyxl	3.0.3	py_0	
openssl	1.1.1d	he774522_4	
optional-django	0.1.0	pypi_0	pypi
packaging	20.1	py_0	
pandas	1.0.1	py37h47e9c7a_0	
pandoc	2.2.3.2	0	
pandocfilters	1.4.2	py37_1	

paramiko	2.7.1	py_0	
parso	0.5.2	py_0	
partd	1.1.0	py_0	
path	13.1.0	py37_0	
path.py	12.4.0	0	
pathlib2	2.3.5	py37_0	
pathtools	0.1.2	py_1	
patsy	0.5.1	py37_0	
pep8	1.7.1	py37_0	
pexpect	4.8.0	py37_0	
pickleshare	0.7.5	py37_0	
pillow	7.0.0	py37hcc1f983_0	
pip	20.0.2	py37_1	
pkginfo	1.5.0.1	py37_0	
pluggy	0.13.1	py37_0	
ply	3.11	py37_0	
powershell_shortcut	0.0.1	3	
prometheus_client	0.7.1	py_0	
prompt_toolkit	3.0.3	py_0	
psutil	5.6.7	py37he774522_0	
py	1.8.1	py_0	
py-lief	0.9.0	py37ha925a31_2	
pycodestyle	2.5.0	py37_0	
pycosat	0.6.3	py37he774522_0	
pycparser	2.19	py37_0	
pycrypto	2.6.1	py37hfa6e2cd_9	
pycurl	7.43.0.5	py37h7a1dbc1_0	
pydocstyle	4.0.1	py_0	
pyflakes	2.1.1	py37_0	
pygments	2.5.2	py_0	
pylint	2.4.4	py37_0	
pynacl	1.3.0	py37h62dcd97_0	
pyodbc	4.0.30	py37ha925a31_0	
pyopenssl	19.1.0	py37_0	
pyparsing	2.4.6	py_0	
pyqt	5.9.2	py37h6538335_2	
pyreadline	2.1	py37_1	
pyrsistent	0.15.7	py37he774522_0	
pysocks	1.7.1	py37_0	
pytables	3.6.1	py37h1da0976_0	
pytest	5.3.5	py37_0	
pytest-arraydiff	0.3	py37h39e3cac_0	
pytest-astropy	0.8.0	py_0	
pytest-astropy-header	0.1.2	py_0	
pytest-doctestplus	0.5.0	py_0	
pytest-openfiles	0.4.0	py_0	
pytest-remotedata	0.3.2	py37_0	
python	3.7.6	h60c2a47_2	
python-dateutil	2.8.1	py_0	
python-jsonrpc-server	0.3.4	py_0	
python-language-server	0.31.7	py37_0	
python-libarchive-c	2.8	py37_13	
python_abi	3.7	1_cp37m	conda-forge
pytz	2019.3	py_0	
pywavelets	1.1.1	py37he774522_0	
pywin32	227	py37he774522_1	
pywin32-ctypes	0.2.0	py37_1000	

pywinpty	0.5.7	py37_0
pyyaml	5.3	py37he774522_0
pyzmq	18.1.1	py37ha925a31_0
qdarkstyle	2.8	py_0
qt	5.9.7	vc14h73c81de_0
qtawesome	0.6.1	py_0
qtconsole	4.6.0	py_1
qtpy	1.9.0	py_0
requests	2.22.0	py37_1
rope	0.16.0	py_0
rtree	0.9.3	py37h21ff451_0
ruamel_yaml	0.15.87	py37he774522_0
scikit-image	0.16.2	py37h47e9c7a_0
scikit-learn	0.22.1	py37h6288b17_0
scipy	1.4.1	py37h9439919_0
seaborn	0.10.0	py_0
send2trash	1.5.0	py37_0
setuptools	45.2.0	py37_0
simplegeneric	0.8.1	py37_2
singledispatch	3.4.0.3	py37_0
sip	4.19.8	py37h6538335_0
six	1.14.0	py37_0
snappy	1.1.7	h777316e_3
snowballstemmer	2.0.0	py_0
sortedcollections	1.1.2	py37_0
sortedcontainers	2.1.0	py37_0
soupsieve	1.9.5	py37_0
sphinx	2.4.0	py_0
sphinxcontrib	1.0	py37_1
sphinxcontrib-applehelp	1.0.1	py_0
sphinxcontrib-devhelp	1.0.1	py_0
sphinxcontrib-htmlhelp	1.0.2	py_0
sphinxcontrib-jsmath	1.0.1	py_0
sphinxcontrib-qthelp	1.0.2	py_0
sphinxcontrib-serializinghtml	1.1.3	py_0
sphinxcontrib-websupport	1.2.0	py_0
spyder	4.0.1	py37_0
spyder-kernels	1.8.1	py37_0
sqlalchemy	1.3.13	py37he774522_0
sqlite	3.31.1	he774522_0
statsmodels	0.11.0	py37he774522_0
sympy	1.5.1	py37_0
tbb	2020.0	h74a9793_0
tblib	1.6.0	py_0
terminado	0.8.3	py37_0
testpath	0.4.4	py_0
tk	8.6.8	hfa6e2cd_0
toolz	0.10.0	py_0
tornado	6.0.3	py37he774522_3
tqdm	4.42.1	py_0
traitlets	4.3.3	py37_0
ujson	1.35	py37hfa6e2cd_0
unicodcsv	0.14.1	py37_0
urllib3	1.25.8	py37_0
vc	14.1	h0510ff6_4
vs2015_runtime	14.16.27012	hf0eaf9b_1
watchdog	0.10.2	py37_0

```

wcwidth                0.1.8                py_0
webencodings            0.5.1                py37_1
werkzeug                1.0.0                py_0
wheel                  0.34.2            py37_0
widgetsnbextension     3.5.1            py37_0
win_inet_pton          1.1.0            py37_0
win_unicode_console    0.5              py37_0
wincertstore           0.2              py37_0
winpty                 0.4.3            4
wrapt                  1.11.2            py37he774522_0
xlrd                   1.2.0            py37_0
xlsxwriter             1.2.7            py_0
xlwings                0.17.1            py37_0
xlwt                   1.3.0            py37_0
xmldict                0.12.0            py_0
xz                     5.2.4            h2fa13f4_4
yaml                   0.1.7            hc54c509_2
yapf                   0.28.0            py_0
zeromq                 4.3.1            h33f27b4_3
zict                   1.0.0            py_0
zippp                  2.2.0            py_0
zlib                   1.2.11            h62dcd97_3
zstd                   1.3.7            h508b16e_0

```

Note: you may need to restart the kernel to use updated packages.

List the environments on your system. You should at least have the `base` environment.

```
In [3]: %conda env list
```

```

# conda environments:
#
                                C:\Users\jbrun\Anaconda3
                                C:\Users\jbrun\AppData\Local\Orange
base                            * C:\Users\jbrun\anaconda3

```

Note: you may need to restart the kernel to use updated packages.

Create a new environment named 'temp'

To create a conda virtual environment, **Using an Anaconda prompt (NOT a magic command)**, type the following: `conda create -n temp`

```
In [4]: # type the magic command to list environments: (your list will look different than mine, but should at least include base and temp)
```

```

%conda env list

# conda environments:
#
                                C:\Users\jbrun\Anaconda3
                                C:\Users\jbrun\AppData\Local\Orange
base                            * C:\Users\jbrun\anaconda3

```

```
temp                                C:\Users\jbrun\anaconda3\envs\temp
```

Note: you may need to restart the kernel to use updated packages.

Using the Conda Cheat sheet, remove the temp environment.

```
In [5]: # Type the magic command to list environments
```

```
%conda env list
```

```
# conda environments:
#
                                C:\Users\jbrun\Anaconda3
                                C:\Users\jbrun\AppData\Local\Orange
base                            * C:\Users\jbrun\anaconda3
```

Note: you may need to restart the kernel to use updated packages.

Create a new environment called msba by cloning the base environment. Again, do this at the Anaconda prompt, not in Jupyter Lab.

```
In [6]: # List the environments
```

```
%conda env list
```

```
# conda environments:
#
                                C:\Users\jbrun\Anaconda3
                                C:\Users\jbrun\AppData\Local\Orange
base                            * C:\Users\jbrun\anaconda3
msba                            C:\Users\jbrun\anaconda3\envs\msba
```

Note: you may need to restart the kernel to use updated packages.

```
In [7]: # List the packages in the msba environment (refer to the cheat sheet)
```

```
%conda list --name msba
```

```
# I had to redo some things and still shows I have bs4 in this env, not su
re why.
```

```
# packages in environment at C:\Users\jbrun\anaconda3\envs\msba:
#
# Name                                Version                                Build    Channel
_ipyw_jlab_nb_ext_conf                0.1.0                                py37_0
alabaster                             0.7.12                               py37_0
anaconda                              2020.02                              py37_0
anaconda-client                       1.7.2                                py37_0
anaconda-navigator                    1.9.12                               py37_0
anaconda-project                      0.8.4                                py_0
argh                                  0.26.2                               py37_0
```


asn1crypto	1.3.0	py37_0
astroid	2.3.3	py37_0
astropy	4.0	py37he774522_0
atomicwrites	1.3.0	py37_1
attrs	19.3.0	py_0
autopep8	1.4.4	py_0
babel	2.8.0	py_0
backcall	0.1.0	py37_0
backports	1.0	py_2
backports.functools_lru_cache	1.6.1	py_0
backports.shutil_get_terminal_size	1.0.0	py37_2
backports.tempfile	1.0	py_1
backports.weakref	1.0.post1	py_1
bcrypt	3.1.7	py37he774522_0
beautifulsoup4	4.8.2	py37_0
bitarray	1.2.1	py37he774522_0
bkcharts	0.2	py37_0
blas	1.0	mk1
bleach	3.1.0	py37_0
blosc	1.16.3	h7bd577a_0
bokeh	1.4.0	py37_0
boto	2.49.0	py37_0
bottleneck	1.3.2	py37h2a96729_0
bzip2	1.0.8	he774522_0
ca-certificates	2020.1.1	0
certifi	2019.11.28	py37_0
cffi	1.14.0	py37h7a1dbc1_0
chardet	3.0.4	py37_1003
click	7.0	py37_0
cloudpickle	1.3.0	py_0
clyent	1.2.2	py37_1
colorama	0.4.3	py_0
comtypes	1.1.7	py37_0
conda-package-handling	1.6.0	py37h62dcd97_0
conda-verify	3.4.2	py_1
console_shortcut	0.1.1	4
contextlib2	0.6.0.post1	py_0
cryptography	2.8	py37h7a1dbc1_0
curl	7.68.0	h2a8f88b_0
cycler	0.10.0	py37_0
cython	0.29.15	py37ha925a31_0
cytoolz	0.10.1	py37he774522_0
dask	2.11.0	py_0
dask-core	2.11.0	py_0
decorator	4.4.1	py_0
defusedxml	0.6.0	py_0
diff-match-patch	20181111	py_0
distributed	2.11.0	py37_0
docutils	0.16	py37_0
entrypoints	0.3	py37_0
et_xmlfile	1.0.1	py37_0
fastcache	1.1.0	py37he774522_0
filelock	3.0.12	py_0
flake8	3.7.9	py37_0
flask	1.1.1	py_0
freetype	2.9.1	ha9979f8_1
fsspec	0.6.2	py_0

future	0.18.2	py37_0
get_terminal_size	1.0.0	h38e98db_0
gevent	1.4.0	py37he774522_0
glob2	0.7	py_0
greenlet	0.4.15	py37hfa6e2cd_0
h5py	2.10.0	py37h5e291fa_0
hdf5	1.10.4	h7ebc959_0
heapdict	1.0.1	py_0
html5lib	1.0.1	py37_0
hypothesis	5.5.4	py_0
icc_rt	2019.0.0	h0cc432a_1
icu	58.2	ha66f8fd_1
idna	2.8	py37_0
imageio	2.6.1	py37_0
imagesize	1.2.0	py_0
importlib_metadata	1.5.0	py37_0
intel-openmp	2020.0	166
intervaltree	3.0.2	py_0
ipykernel	5.1.4	py37h39e3cac_0
ipython	7.12.0	py37h5ca1d4c_0
ipython_genutils	0.2.0	py37_0
ipywidgets	7.5.1	py_0
isort	4.3.21	py37_0
itsdangerous	1.1.0	py37_0
jdcal	1.4.1	py_0
jedi	0.14.1	py37_0
jinja2	2.11.1	py_0
joblib	0.14.1	py_0
jpeg	9b	hb83a4c4_2
json5	0.9.1	py_0
jsonschema	3.2.0	py37_0
jupyter	1.0.0	py37_7
jupyter_client	5.3.4	py37_0
jupyter_console	6.1.0	py_0
jupyter_core	4.6.1	py37_0
jupyterlab	1.2.6	pyhf63ae98_0
jupyterlab_server	1.0.6	py_0
keyring	21.1.0	py37_0
kiwisolver	1.1.0	py37ha925a31_0
krb5	1.17.1	hc04afaa_0
lazy-object-proxy	1.4.3	py37he774522_0
libarchive	3.3.3	h0643e63_5
libcurl	7.68.0	h2a8f88b_0
libiconv	1.15	h1df5818_7
liblief	0.9.0	ha925a31_2
libpng	1.6.37	h2a8f88b_0
libsodium	1.0.16	h9d3ae62_0
libspatialindex	1.9.3	h33f27b4_0
libssh2	1.8.2	h7a1dbc1_0
libtiff	4.1.0	h56a325e_0
libxml2	2.9.9	h464c3ec_0
libxslt	1.1.33	h579f668_0
llvmlite	0.31.0	py37ha925a31_0
locket	0.2.0	py37_1
lxml	4.5.0	py37h1350720_0
lz4-c	1.8.1.2	h2fa13f4_0
lzo	2.10	h6df0209_2

m2w64-gcc-libgfortran	5.3.0	6	
m2w64-gcc-libs	5.3.0	7	
m2w64-gcc-libs-core	5.3.0	7	
m2w64-gmp	6.1.0	2	
m2w64-libwinpthread-git	5.0.0.4634.697f757	2	
markupsafe	1.1.1	py37he774522_0	
matplotlib	3.1.3	py37_0	
matplotlib-base	3.1.3	py37h64f37c6_0	
mccabe	0.6.1	py37_1	
menuinst	1.4.16	py37he774522_0	
mistune	0.8.4	py37he774522_0	
mk1	2020.0	166	
mk1-service	2.3.0	py37hb782905_0	
mk1_fft	1.0.15	py37h14836fe_0	
mk1_random	1.1.0	py37h675688f_0	
mock	4.0.1	py_0	
more-itertools	8.2.0	py_0	
mpmath	1.1.0	py37_0	
msgpack-python	0.6.1	py37h74a9793_1	
msys2-conda-epoch	20160418	1	
multipledispatch	0.6.0	py37_0	
navigator-updater	0.2.1	py37_0	
nbconvert	5.6.1	py37_0	
nbformat	5.0.4	py_0	
networkx	2.4	py_0	
nltk	3.4.5	py37_0	
nodejs	0.1.1	pypi_0	pypi
nose	1.3.7	py37_2	
notebook	6.0.3	py37_0	
npm	0.1.1	pypi_0	pypi
numba	0.48.0	py37h47e9c7a_0	
numexpr	2.7.1	py37h25d0782_0	
numpy	1.18.1	py37h93ca92e_0	
numpy-base	1.18.1	py37hc3f5095_1	
numpydoc	0.9.2	py_0	
olefile	0.46	py37_0	
openpyxl	3.0.3	py_0	
openssl	1.1.1d	he774522_4	
optional-django	0.1.0	pypi_0	pypi
packaging	20.1	py_0	
pandas	1.0.1	py37h47e9c7a_0	
pandoc	2.2.3.2	0	
pandocfilters	1.4.2	py37_1	
paramiko	2.7.1	py_0	
parso	0.5.2	py_0	
partd	1.1.0	py_0	
path	13.1.0	py37_0	
path.py	12.4.0	0	
pathlib2	2.3.5	py37_0	
pathtools	0.1.2	py_1	
patsy	0.5.1	py37_0	
pep8	1.7.1	py37_0	
pexpect	4.8.0	py37_0	
pickleshare	0.7.5	py37_0	
pillow	7.0.0	py37hcc1f983_0	
pip	20.0.2	py37_1	
pkginfo	1.5.0.1	py37_0	

pluggy	0.13.1	py37_0	
ply	3.11	py37_0	
powershell_shortcut	0.0.1	3	
prometheus_client	0.7.1	py_0	
prompt_toolkit	3.0.3	py_0	
psutil	5.6.7	py37he774522_0	
py	1.8.1	py_0	
py-lief	0.9.0	py37ha925a31_2	
pycodestyle	2.5.0	py37_0	
pycosat	0.6.3	py37he774522_0	
pycparser	2.19	py37_0	
pycrypto	2.6.1	py37hfa6e2cd_9	
pycurl	7.43.0.5	py37h7a1dbc1_0	
pydocstyle	4.0.1	py_0	
pyflakes	2.1.1	py37_0	
pygments	2.5.2	py_0	
pylint	2.4.4	py37_0	
pynacl	1.3.0	py37h62dcd97_0	
pyodbc	4.0.30	py37ha925a31_0	
pyopenssl	19.1.0	py37_0	
pyarsing	2.4.6	py_0	
pyqt	5.9.2	py37h6538335_2	
pyreadline	2.1	py37_1	
pyrsistent	0.15.7	py37he774522_0	
pysocks	1.7.1	py37_0	
pytables	3.6.1	py37h1da0976_0	
pytest	5.3.5	py37_0	
pytest-arraydiff	0.3	py37h39e3cac_0	
pytest-astropy	0.8.0	py_0	
pytest-astropy-header	0.1.2	py_0	
pytest-doctestplus	0.5.0	py_0	
pytest-openfiles	0.4.0	py_0	
pytest-remotedata	0.3.2	py37_0	
python	3.7.6	h60c2a47_2	
python-dateutil	2.8.1	py_0	
python-jsonrpc-server	0.3.4	py_0	
python-language-server	0.31.7	py37_0	
python-libarchive-c	2.8	py37_13	
python_abi	3.7	1_cp37m	conda-forge
pytz	2019.3	py_0	
pywavelets	1.1.1	py37he774522_0	
pywin32	227	py37he774522_1	
pywin32-ctypes	0.2.0	py37_1000	
pywinpty	0.5.7	py37_0	
pyyaml	5.3	py37he774522_0	
pyzmq	18.1.1	py37ha925a31_0	
qdarkstyle	2.8	py_0	
qt	5.9.7	vc14h73c81de_0	
qtawesome	0.6.1	py_0	
qtconsole	4.6.0	py_1	
qtpy	1.9.0	py_0	
requests	2.22.0	py37_1	
rope	0.16.0	py_0	
rtree	0.9.3	py37h21ff451_0	
ruamel_yaml	0.15.87	py37he774522_0	
scikit-image	0.16.2	py37h47e9c7a_0	
scikit-learn	0.22.1	py37h6288b17_0	

scipy	1.4.1	py37h9439919_0
seaborn	0.10.0	py_0
send2trash	1.5.0	py37_0
setuptools	45.2.0	py37_0
simplegeneric	0.8.1	py37_2
singledispatch	3.4.0.3	py37_0
sip	4.19.8	py37h6538335_0
six	1.14.0	py37_0
snappy	1.1.7	h777316e_3
snowballstemmer	2.0.0	py_0
sortedcollections	1.1.2	py37_0
sortedcontainers	2.1.0	py37_0
soupsieve	1.9.5	py37_0
sphinx	2.4.0	py_0
sphinxcontrib	1.0	py37_1
sphinxcontrib-applehelp	1.0.1	py_0
sphinxcontrib-devhelp	1.0.1	py_0
sphinxcontrib-htmlhelp	1.0.2	py_0
sphinxcontrib-jsmath	1.0.1	py_0
sphinxcontrib-qthelp	1.0.2	py_0
sphinxcontrib-serializinghtml	1.1.3	py_0
sphinxcontrib-websupport	1.2.0	py_0
spyder	4.0.1	py37_0
spyder-kernels	1.8.1	py37_0
sqlalchemy	1.3.13	py37he774522_0
sqlite	3.31.1	he774522_0
statsmodels	0.11.0	py37he774522_0
sympy	1.5.1	py37_0
tbb	2020.0	h74a9793_0
tblib	1.6.0	py_0
terminado	0.8.3	py37_0
testpath	0.4.4	py_0
tk	8.6.8	hfa6e2cd_0
toolz	0.10.0	py_0
tornado	6.0.3	py37he774522_3
tqdm	4.42.1	py_0
traitlets	4.3.3	py37_0
ujson	1.35	py37hfa6e2cd_0
unicodcsv	0.14.1	py37_0
urllib3	1.25.8	py37_0
vc	14.1	h0510ff6_4
vs2015_runtime	14.16.27012	hf0eaf9b_1
watchdog	0.10.2	py37_0
wcwidth	0.1.8	py_0
webencodings	0.5.1	py37_1
werkzeug	1.0.0	py_0
wheel	0.34.2	py37_0
widgetsnbextension	3.5.1	py37_0
win_inet_pton	1.1.0	py37_0
win_unicode_console	0.5	py37_0
wincertstore	0.2	py37_0
winpty	0.4.3	4
wrapt	1.11.2	py37he774522_0
xlrd	1.2.0	py37_0
xlsxwriter	1.2.7	py_0
xlwings	0.17.1	py37_0
xlwt	1.3.0	py37_0

xmldict	0.12.0	py_0
xz	5.2.4	h2fa13f4_4
yaml	0.1.7	hc54c509_2
yapf	0.28.0	py_0
zeromq	4.3.1	h33f27b4_3
zict	1.0.0	py_0
zipp	2.2.0	py_0
zlib	1.2.11	h62dcd97_3
zstd	1.3.7	h508b16e_0

Note: you may need to restart the kernel to use updated packages.

Using the command prompt, install the Beautiful Soup module (bs4) into the msba enviornment.

In [8]: *# List the packages in the msba environment*

```
# conda install conda-forge::bs4
%conda list --name msba
```

```
# packages in environment at C:\Users\jbrun\anaconda3\envs\msba:
#
# Name                                Version                                Build      Channel
_ipyw_jlab_nb_ext_conf               0.1.0                                py37_0
alabaster                             0.7.12                               py37_0
anaconda                             2020.02                              py37_0
anaconda-client                       1.7.2                                py37_0
anaconda-navigator                    1.9.12                               py37_0
anaconda-project                      0.8.4                                py_0
argh                                  0.26.2                               py37_0
asn1crypto                            1.3.0                                py37_0
astroid                               2.3.3                                py37_0
astropy                               4.0                                  py37he774522_0
atomicwrites                          1.3.0                                py37_1
attrs                                 19.3.0                               py_0
autopep8                              1.4.4                                py_0
babel                                  2.8.0                                py_0
backcall                              0.1.0                                py37_0
backports                             1.0                                  py_2
backports.functools_lru_cache         1.6.1                                py_0
backports.shutil_get_terminal_size    1.0.0                                py37_2
backports.tempfile                    1.0                                  py_1
backports.weakref                     1.0.post1                            py_1
bcrypt                                 3.1.7                                py37he774522_0
beautifulsoup4                        4.8.2                                py37_0
bitarray                              1.2.1                                py37he774522_0
bkcharts                              0.2                                  py37_0
blas                                  1.0                                  mkl
bleach                                 3.1.0                                py37_0
blosc                                  1.16.3                               h7bd577a_0
bokeh                                  1.4.0                                py37_0
boto                                   2.49.0                               py37_0
bottleneck                            1.3.2                                py37h2a96729_0
bzip2                                 1.0.8                                he774522_0
ca-certificates                       2020.1.1                              0
certifi                               2019.11.28                           py37_0
cffi                                   1.14.0                               py37h7a1dbcl_0
```

chardet	3.0.4	py37_1003
click	7.0	py37_0
cloudpickle	1.3.0	py_0
clyent	1.2.2	py37_1
colorama	0.4.3	py_0
comtypes	1.1.7	py37_0
conda-package-handling	1.6.0	py37h62dcd97_0
conda-verify	3.4.2	py_1
console_shortcut	0.1.1	4
contextlib2	0.6.0.post1	py_0
cryptography	2.8	py37h7a1dbc1_0
curl	7.68.0	h2a8f88b_0
cycler	0.10.0	py37_0
cython	0.29.15	py37ha925a31_0
cytoolz	0.10.1	py37he774522_0
dask	2.11.0	py_0
dask-core	2.11.0	py_0
decorator	4.4.1	py_0
defusedxml	0.6.0	py_0
diff-match-patch	20181111	py_0
distributed	2.11.0	py37_0
docutils	0.16	py37_0
entrypoints	0.3	py37_0
et_xmlfile	1.0.1	py37_0
fastcache	1.1.0	py37he774522_0
filelock	3.0.12	py_0
flake8	3.7.9	py37_0
flask	1.1.1	py_0
freetype	2.9.1	ha9979f8_1
fsspec	0.6.2	py_0
future	0.18.2	py37_0
get_terminal_size	1.0.0	h38e98db_0
gevent	1.4.0	py37he774522_0
glob2	0.7	py_0
greenlet	0.4.15	py37hfa6e2cd_0
h5py	2.10.0	py37h5e291fa_0
hdf5	1.10.4	h7ebc959_0
heapdict	1.0.1	py_0
html5lib	1.0.1	py37_0
hypothesis	5.5.4	py_0
icc_rt	2019.0.0	h0cc432a_1
icu	58.2	ha66f8fd_1
idna	2.8	py37_0
imageio	2.6.1	py37_0
imagesize	1.2.0	py_0
importlib_metadata	1.5.0	py37_0
intel-openmp	2020.0	166
intervaltree	3.0.2	py_0
ipykernel	5.1.4	py37h39e3cac_0
ipython	7.12.0	py37h5ca1d4c_0
ipython_genutils	0.2.0	py37_0
ipywidgets	7.5.1	py_0
isort	4.3.21	py37_0
itsdangerous	1.1.0	py37_0
jdcal	1.4.1	py_0
jedi	0.14.1	py37_0
jinja2	2.11.1	py_0

joblib	0.14.1	py_0	
jpeg	9b	hb83a4c4_2	
json5	0.9.1	py_0	
jsonschema	3.2.0	py37_0	
jupyter	1.0.0	py37_7	
jupyter_client	5.3.4	py37_0	
jupyter_console	6.1.0	py_0	
jupyter_core	4.6.1	py37_0	
jupyterlab	1.2.6	pyhf63ae98_0	
jupyterlab_server	1.0.6	py_0	
keyring	21.1.0	py37_0	
kiwisolver	1.1.0	py37ha925a31_0	
krb5	1.17.1	hc04afaa_0	
lazy-object-proxy	1.4.3	py37he774522_0	
libarchive	3.3.3	h0643e63_5	
libcurl	7.68.0	h2a8f88b_0	
libiconv	1.15	h1df5818_7	
liblief	0.9.0	ha925a31_2	
libpng	1.6.37	h2a8f88b_0	
libsodium	1.0.16	h9d3ae62_0	
libspatialindex	1.9.3	h33f27b4_0	
libssh2	1.8.2	h7a1dbc1_0	
libtiff	4.1.0	h56a325e_0	
libxml2	2.9.9	h464c3ec_0	
libxslt	1.1.33	h579f668_0	
llvmlite	0.31.0	py37ha925a31_0	
locket	0.2.0	py37_1	
lxml	4.5.0	py37h1350720_0	
lz4-c	1.8.1.2	h2fa13f4_0	
lzo	2.10	h6df0209_2	
m2w64-gcc-libgfortran	5.3.0	6	
m2w64-gcc-libs	5.3.0	7	
m2w64-gcc-libs-core	5.3.0	7	
m2w64-gmp	6.1.0	2	
m2w64-libwinpthread-git	5.0.0.4634.697f757	2	
markupsafe	1.1.1	py37he774522_0	
matplotlib	3.1.3	py37_0	
matplotlib-base	3.1.3	py37h64f37c6_0	
mccabe	0.6.1	py37_1	
menuinst	1.4.16	py37he774522_0	
mistune	0.8.4	py37he774522_0	
mk1	2020.0	166	
mk1-service	2.3.0	py37hb782905_0	
mk1_fft	1.0.15	py37h14836fe_0	
mk1_random	1.1.0	py37h675688f_0	
mock	4.0.1	py_0	
more-itertools	8.2.0	py_0	
mpmath	1.1.0	py37_0	
msgpack-python	0.6.1	py37h74a9793_1	
msys2-conda-epoch	20160418	1	
multipledispatch	0.6.0	py37_0	
navigator-updater	0.2.1	py37_0	
nbconvert	5.6.1	py37_0	
nbformat	5.0.4	py_0	
networkx	2.4	py_0	
nltk	3.4.5	py37_0	
nodejs	0.1.1	pypi_0	pypi

nose	1.3.7	py37_2	
notebook	6.0.3	py37_0	
npm	0.1.1	pypi_0	pypi
numba	0.48.0	py37h47e9c7a_0	
numexpr	2.7.1	py37h25d0782_0	
numpy	1.18.1	py37h93ca92e_0	
numpy-base	1.18.1	py37hc3f5095_1	
numpydoc	0.9.2	py_0	
olefile	0.46	py37_0	
openpyxl	3.0.3	py_0	
openssl	1.1.1d	he774522_4	
optional-django	0.1.0	pypi_0	pypi
packaging	20.1	py_0	
pandas	1.0.1	py37h47e9c7a_0	
pandoc	2.2.3.2	0	
pandocfilters	1.4.2	py37_1	
paramiko	2.7.1	py_0	
parso	0.5.2	py_0	
partd	1.1.0	py_0	
path	13.1.0	py37_0	
path.py	12.4.0	0	
pathlib2	2.3.5	py37_0	
pathtools	0.1.2	py_1	
patsy	0.5.1	py37_0	
pep8	1.7.1	py37_0	
pexpect	4.8.0	py37_0	
pickleshare	0.7.5	py37_0	
pillow	7.0.0	py37hcc1f983_0	
pip	20.0.2	py37_1	
pkginfo	1.5.0.1	py37_0	
pluggy	0.13.1	py37_0	
ply	3.11	py37_0	
powershell_shortcut	0.0.1	3	
prometheus_client	0.7.1	py_0	
prompt_toolkit	3.0.3	py_0	
psutil	5.6.7	py37he774522_0	
py	1.8.1	py_0	
py-lief	0.9.0	py37ha925a31_2	
pycodestyle	2.5.0	py37_0	
pycosat	0.6.3	py37he774522_0	
pycparser	2.19	py37_0	
pycrypto	2.6.1	py37hfa6e2cd_9	
pycurl	7.43.0.5	py37h7a1dbcl_0	
pydocstyle	4.0.1	py_0	
pyflakes	2.1.1	py37_0	
pygments	2.5.2	py_0	
pylint	2.4.4	py37_0	
pynacl	1.3.0	py37h62dcd97_0	
pyodbc	4.0.30	py37ha925a31_0	
pyopenssl	19.1.0	py37_0	
pyarsing	2.4.6	py_0	
pyqt	5.9.2	py37h6538335_2	
pyreadline	2.1	py37_1	
pyrsistent	0.15.7	py37he774522_0	
pysocks	1.7.1	py37_0	
pytables	3.6.1	py37h1da0976_0	
pytest	5.3.5	py37_0	

pytest-arraydiff	0.3	py37h39e3cac_0	conda-forge
pytest-astropy	0.8.0	py_0	
pytest-astropy-header	0.1.2	py_0	
pytest-doctestplus	0.5.0	py_0	
pytest-openfiles	0.4.0	py_0	
pytest-remotedata	0.3.2	py37_0	
python	3.7.6	h60c2a47_2	
python-dateutil	2.8.1	py_0	
python-jsonrpc-server	0.3.4	py_0	
python-language-server	0.31.7	py37_0	
python-libarchive-c	2.8	py37_13	
python_abi	3.7	1_cp37m	
pytz	2019.3	py_0	
pywavelets	1.1.1	py37he774522_0	
pywin32	227	py37he774522_1	
pywin32-ctypes	0.2.0	py37_1000	
pywinpty	0.5.7	py37_0	
pyyaml	5.3	py37he774522_0	
pymzmq	18.1.1	py37ha925a31_0	
qdarkstyle	2.8	py_0	
qt	5.9.7	vc14h73c81de_0	
qtawesome	0.6.1	py_0	
qtconsole	4.6.0	py_1	
qtpy	1.9.0	py_0	
requests	2.22.0	py37_1	
rope	0.16.0	py_0	
rtree	0.9.3	py37h21ff451_0	
ruamel_yaml	0.15.87	py37he774522_0	
scikit-image	0.16.2	py37h47e9c7a_0	
scikit-learn	0.22.1	py37h6288b17_0	
scipy	1.4.1	py37h9439919_0	
seaborn	0.10.0	py_0	
send2trash	1.5.0	py37_0	
setuptools	45.2.0	py37_0	
simplegeneric	0.8.1	py37_2	
singledispatch	3.4.0.3	py37_0	
sip	4.19.8	py37h6538335_0	
six	1.14.0	py37_0	
snappy	1.1.7	h777316e_3	
snowballstemmer	2.0.0	py_0	
sortedcollections	1.1.2	py37_0	
sortedcontainers	2.1.0	py37_0	
soupsieve	1.9.5	py37_0	
sphinx	2.4.0	py_0	
sphinxcontrib	1.0	py37_1	
sphinxcontrib-applehelp	1.0.1	py_0	
sphinxcontrib-devhelp	1.0.1	py_0	
sphinxcontrib-htmlhelp	1.0.2	py_0	
sphinxcontrib-jsmath	1.0.1	py_0	
sphinxcontrib-qthelp	1.0.2	py_0	
sphinxcontrib-serializinghtml	1.1.3	py_0	
sphinxcontrib-websupport	1.2.0	py_0	
spyder	4.0.1	py37_0	
spyder-kernels	1.8.1	py37_0	
sqlalchemy	1.3.13	py37he774522_0	
sqlite	3.31.1	he774522_0	
statsmodels	0.11.0	py37he774522_0	

sympy	1.5.1	py37_0
tbb	2020.0	h74a9793_0
tblib	1.6.0	py_0
terminado	0.8.3	py37_0
testpath	0.4.4	py_0
tk	8.6.8	hfa6e2cd_0
toolz	0.10.0	py_0
tornado	6.0.3	py37he774522_3
tqdm	4.42.1	py_0
traitlets	4.3.3	py37_0
ujson	1.35	py37hfa6e2cd_0
unicodcsv	0.14.1	py37_0
urllib3	1.25.8	py37_0
vc	14.1	h0510ff6_4
vs2015_runtime	14.16.27012	hf0eaf9b_1
watchdog	0.10.2	py37_0
wcwidth	0.1.8	py_0
webencodings	0.5.1	py37_1
werkzeug	1.0.0	py_0
wheel	0.34.2	py37_0
widgetsnbextension	3.5.1	py37_0
win_inet_pton	1.1.0	py37_0
win_unicode_console	0.5	py37_0
wincertstore	0.2	py37_0
winpty	0.4.3	4
wrapr	1.11.2	py37he774522_0
xlrd	1.2.0	py37_0
xlswriter	1.2.7	py_0
xlwings	0.17.1	py37_0
xlwt	1.3.0	py37_0
xmltodict	0.12.0	py_0
xz	5.2.4	h2fa13f4_4
yaml	0.1.7	hc54c509_2
yapf	0.28.0	py_0
zeromq	4.3.1	h33f27b4_3
zict	1.0.0	py_0
zipp	2.2.0	py_0
zlib	1.2.11	h62dcd97_3
zstd	1.3.7	h508b16e_0

Note: you may need to restart the kernel to use updated packages.