

Python Modules

- just files of Python code
- export variables, functions, and/or classes

```
In [1]: # this code lives in mymodule.py
def dummy():
    return 45

public_data = "public stuff!"
_private_data = "private stuff!"
print('__name__ =', __name__)

# If this code is being *run*, then __name__ will be '__main__'
if __name__ == '__main__':
    # test dummy
    if dummy() == 45:
        print('success')
```

```
__name__ = __main__
success
```

```
In [2]: !python3 mymodule.py
# The above runs a command in the shell, outside of the notebook
```

```
__name__ = __main__
success
```

```
In [3]: import mymodule
mymodule.dummy() # must preface identifiers with module name
```

```
__name__ = mymodule
45
```

Out[3]:

```
In [4]: dir()
```

```
Out[4]: ['In',
         'Out',
```

```
'_','_3',
'_','_3',
'_','_3',
'_','_3',
'_builtin_',
'_builtins_',
'_doc_',
'_loader_',
'_name_',
'_package_',
'_spec_',
'_dh',
'_exit_code',
'_i',
'_i1',
'_i2',
'_i3',
'_i4',
'_ih',
'_ii',
'_iii',
'_oh',
'_private_data',
'dummy',
'exit',
'get_ipython',
'mymodule',
'os',
'public_data',
'quit',
'sys']
```

```
In [5]: mymodule._private_data, mymodule.public_data
```

```
Out[5]: ('private stuff!', 'public stuff!')
```

```
In [6]: from mymodule import public_data as thismodule_data
dir()
```

```
Out[6]: ['In',
'Out',
'_',
'_3',
'_4',
```

```
'_5',
'_',
'__',
'__builtin__',
'__builtins__',
'__doc__',
'__loader__',
'__name__',
'__package__',
'__spec__',
'_dh',
'_exit_code',
'_i',
'_i1',
'_i2',
'_i3',
'_i4',
'_i5',
'_i6',
'_ih',
'_ii',
'_iii',
'_oh',
'_private_data',
'dummy',
'exit',
'get_ipython',
'mymodule',
'os',
'public_data',
'quit',
'sys',
'thismodule_data']
```

```
In [7]: import sys
sys.path.insert(0, '/salesforce/specific/dir')
sys.path
```

```
Out[7]: ['/salesforce/specific/dir',
'/home/sysadmin/source/repos/intermediate-python',
'/home/sysadmin/.vscode-server/extensions/ms-toolsai.jupyter-2021.8.2041215044/pythonFiles',
'/home/sysadmin/.vscode-server/extensions/ms-toolsai.jupyter-2021.8.2041215044/pythonFiles/lib/python',
'/usr/lib/python38.zip',
'/usr/lib/python3.8',
'/usr/lib/python3.8/lib-dynload',
```

```
''  
,  
'/home/sysadmin/.local/share/virtualenvs/py-yield-Jt80a98q/lib/python3.8/site-packages',  
'/home/sysadmin/.local/share/virtualenvs/py-yield-Jt80a98q/lib/python3.8/site-packages/IPython/extensions',  
'/home/sysadmin/.ipython']
```