Download restricted KISS data

I demonstrate three versions to download restricted data

- using the seiscomp3 fdsnws_fetch.py script
- the obspy.fdsn client using the credentials (a) in the constructor, (b) with the set_credentials and (c) with the set_credentials method and a dummy user in the constructor
- the obspy.fdsn client using the token (a) in the constructor, (b) with the set_eida_token and (c) with the set_eida_token method and a dummy user in the constructor

The message is that resource_type = "queryauth" is only set if user is given in the constructor. Otherwise the resourcetype remains "query".

In [1]:

```
import os
from obspy import read, UTCDateTime
from obspy.clients.fdsn import Client
%matplotlib inline
t = UTCDateTime(2015,9,15,7,0,0)
```

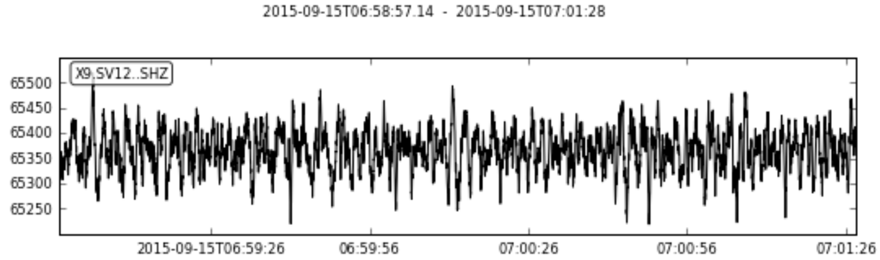
You first need to retrieve the token by sending e-mail to breqfast@webdc.eu, containing ”.AUTH your_email_address”. Follow the description in https://geofon.gfz-potsdam.de/waveform/archive/auth/auth-example.php#new-fdsnws-fetch-tool (https://geofon.gfz-potsdam.de/waveform/archive/auth/auth-example.php#new-fdsnws-fetch-tool)

In [2]:

```
# download the credentials
os.system('wget --post-file Chris_token.asc https://geofon.gfz-potsdam.de/'\
          'fdsnws/dataselect/1/auth -O cred.txt')
with open('cred.txt','r') as fp:
    cred_string = fp.readline()
    [user, passwd] = cred_string.split(':')
```

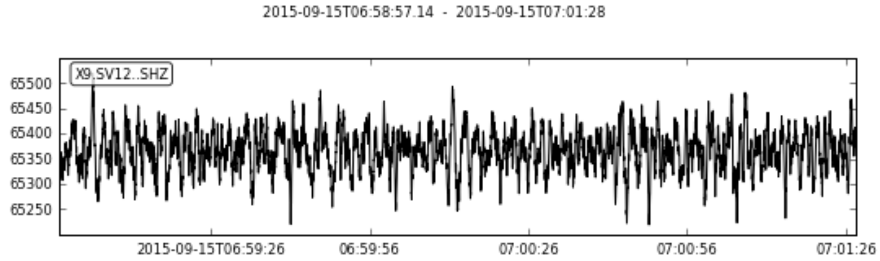
In [3]:

```
# Download using the fdsnws_fetch.py script
## get the script
os.system("wget https://raw.githubusercontent.com/EIDA/seiscomp3/master/'\
            'src/trunk/apps/fdsnws/fdsnws_fetch.py")
## try to remove old data
try:
    os.system("rm data.mseed")
except:
    pass
## download
os.system("python fdsnws_fetch.py -a token.asc -N 'X9' -S 'SV12' -L '*' "\
          "-C '*Z' -s \"2015-09-15T07:00:00Z\" "\
          "-e \"2015-09-15T07:01:00Z\" -v -o data.mseed")
## read and plot
st_fetch = read('data.mseed')
st_fetch.plot()
```



In [4]:

```
# Download using obspy.fdsn client with the the 'user, password'
# information from the cred.txt file downloaded above
# given when instanciating the client
client = Client('GFZ',user=user, password=passwd)
st_cred = client.get_waveforms("X9", "SV12", "*", "*Z", t, t + 60)
st_cred.plot()
```



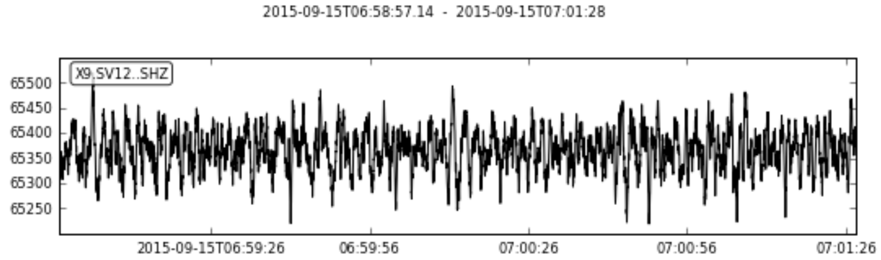
In [5]:

```
# Download using obspy.fdsn client with the the 'user, password'
# information from the cred.txt file downloaded above
# given with the set_credentials method
client = Client('GFZ')
client.set_credentials(user=user,password=passwd)
st_set_cred = client.get_waveforms("X9", "SV12", "*", "*Z", t, t + 60)
st_set_cred.plot()
```

```
---------------------------------------------------------------------------
-
FDSNNoDataException                       Traceback (most recent call last
)
<ipython-input-5-fff4e74dcbdb> in <module>()
      4 client = Client('GFZ')
      5 client.set_credentials(user=user,password=passwd)
----> 6 st_set_cred = client.get_waveforms("X9", "SV12", "*", "*Z", t, t +
60)
      7 st_set_cred.plot()

/home/chris/lib/anaconda2/lib/python2.7/site-packages/obspy/clients/fdsn/c
lient.pyc in get_waveforms(self, network, station, location, channel, star
ttime, endtime, quality, minimumlength, longestonly, filename, attach_resp
onse, **kwargs)
    828         # Gzip not worth it for MiniSEED and most likely disabled
for this
    829         # route in any case.
--> 830         data_stream = self._download(url, use_gzip=False)
    831         data_stream.seek(0, 0)
    832         if filename:

/home/chris/lib/anaconda2/lib/python2.7/site-packages/obspy/clients/fdsn/c
lient.pyc in _download(self, url, return_string, data, use_gzip)
   1380             debug=self.debug, return_string=return_string, data=da
ta,
   1381             timeout=self.timeout, use_gzip=use_gzip)
-> 1382         raise_on_error(code, data)
   1383         return data
   1384

/home/chris/lib/anaconda2/lib/python2.7/site-packages/obspy/clients/fdsn/c
lient.pyc in raise_on_error(code, data)
   1704     if code == 204:
   1705         raise FDSNNoDataException("No data available for request."
,
-> 1706                                   server_info)
   1707     elif code == 400:
   1708         msg = ("Bad request. If you think your request was valid "

FDSNNoDataException: No data available for request.
Detailed response of server:
```

In [6]:

```
# Same as above but passing a dummy user in the constructor
client = Client('GFZ',user='dummy')
client.set_credentials(user=user,password=passwd)
st_dummy_cred = client.get_waveforms("X9", "SV12", "*", "*Z", t, t + 60)
st_dummy_cred.plot()
```



In [7]:
```
# Try to download data using the eida token in the obspy.fdsn client
# in the constructor
client = Client('GFZ',eida_token='token.asc')
st_token = client.get_waveforms("X9", "SV12", "*", "*Z", t, t + 60)
st_token.plot()
```

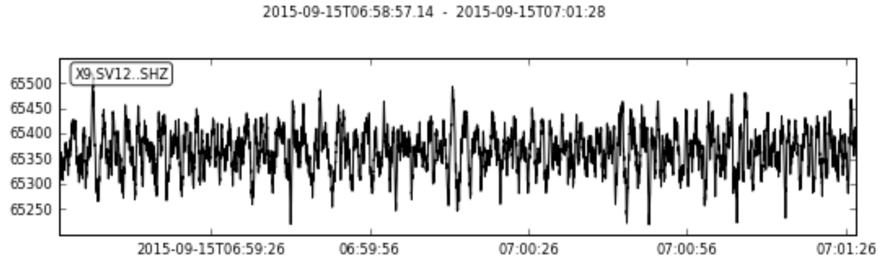
```
---------------------------------------------------------------------------
FDSNNoDataException                       Traceback (most recent call last)
<ipython-input-7-735e0bec8c23> in <module>()
      2 # in the constructor
      3 client = Client('GFZ',eida_token='token.asc')
----> 4 st_token = client.get_waveforms("X9", "SV12", "*", "*Z", t, t + 60)
      5 st_token.plot()

/home/chris/lib/anaconda2/lib/python2.7/site-packages/obspy/clients/fdsn/client.pyc in get_waveforms(self, network, station, location, channel, starttime, endtime, quality, minimumlength, longestonly, filename, attach_response, **kwargs)
    828         # Gzip not worth it for MiniSEED and most likely disabled for this
    829         # route in any case.
--> 830         data_stream = self._download(url, use_gzip=False)
    831         data_stream.seek(0, 0)
    832         if filename:

/home/chris/lib/anaconda2/lib/python2.7/site-packages/obspy/clients/fdsn/client.pyc in _download(self, url, return_string, data, use_gzip)
   1380             debug=self.debug, return_string=return_string, data=data,
   1381             timeout=self.timeout, use_gzip=use_gzip)
-> 1382         raise_on_error(code, data)
   1383         return data
   1384 

/home/chris/lib/anaconda2/lib/python2.7/site-packages/obspy/clients/fdsn/client.pyc in raise_on_error(code, data)
   1704     if code == 204:
   1705         raise FDSNNoDataException("No data available for request.",
-> 1706                                   server_info)
   1707     elif code == 400:
   1708         msg = ("Bad request. If you think your request was valid "

FDSNNoDataException: No data available for request.
Detailed response of server:
```

In [8]:

```
# Try to download data using the token with the set_eida_token method
# in the obspy.fdsn client
client = Client('GFZ')
client.set_eida_token('token.asc')
st_set_token = client.get_waveforms("X9", "SV12", "*", "*Z", t, t + 60)
st_set_token.plot()
```

```
--------------------------------------------------------------------------
-
FDSNNoDataException                       Traceback (most recent call last
)
<ipython-input-8-0ecf70090569> in <module>()
      3 client = Client('GFZ')
      4 client.set_eida_token('token.asc')
----> 5 st_set_token = client.get_waveforms("X9", "SV12", "*", "*Z", t, t
+ 60)
      6 st_set_token.plot()

/home/chris/lib/anaconda2/lib/python2.7/site-packages/obspy/clients/fdsn/c
lient.pyc in get_waveforms(self, network, station, location, channel, star
ttime, endtime, quality, minimumlength, longestonly, filename, attach_resp
onse, **kwargs)
    828         # Gzip not worth it for MiniSEED and most likely disabled
for this
    829         # route in any case.
--> 830         data_stream = self._download(url, use_gzip=False)
    831         data_stream.seek(0, 0)
    832         if filename:

/home/chris/lib/anaconda2/lib/python2.7/site-packages/obspy/clients/fdsn/c
lient.pyc in _download(self, url, return_string, data, use_gzip)
   1380             debug=self.debug, return_string=return_string, data=da
ta,
   1381             timeout=self.timeout, use_gzip=use_gzip)
-> 1382         raise_on_error(code, data)
   1383         return data
   1384 

/home/chris/lib/anaconda2/lib/python2.7/site-packages/obspy/clients/fdsn/c
lient.pyc in raise_on_error(code, data)
   1704     if code == 204:
   1705         raise FDSNNoDataException("No data available for request."
,
-> 1706                                   server_info)
   1707     elif code == 400:
   1708         msg = ("Bad request. If you think your request was valid "

FDSNNoDataException: No data available for request.
Detailed response of server:
```

```
In [9]: # Try to download data using the token with the set_eida_token method
        # with a dummy user in the constructor
        client = Client('GFZ',user='dummy')
        client.set_eida_token('token.asc')
        st_dummy_token = client.get_waveforms("X9", "SV12", "*", "*Z", t, t + 60)
        st_dummy_token.plot()
```



```
In [ ]:
```