In [12]:

```python
whitelist_hostname = ["example.com","www.example.com"]
whitelist_scheme = ["http://"]
def check_hostname(url):
    for i in whitelist_scheme:# i="http://"
        if url.startswith(i):
            url = url[len(i):]   # strip scheme
            url = url[url.find("@") + 1:]   # strip userinfo
            if not url.find("/") == -1:
                url = url[:url.find("/")]   # strip parts after authority
            if not url.find(":") == -1:
                url = url[:url.find(":")]   # strip port
            print(url)
            if url not in whitelist_hostname:
                return (False, "hostname {} not in whitelist".format(url))
            return (True, "ok")
    return (False, "scheme not in whitelist, only {} allowed".format(whitelist_scheme))
```

In [16]:

```python
check_hostname('http://web1/?@example.com:233')
check_hostname('http://web1/#@example.com:233')
import requests
requests.get('http://web1/#@example.com:233')
requests.get('http://web1/?@example.com:233')
```

In [16]:

```python
check_hostname('http://web1/?@example.com:233')
check_hostname('http://web1/#@example.com:233')
import requests
requests.get('http://web1/#@example.com:233')
requests.get('http://web1/?@example.com:233')
```

example.com
example.com

```
---------------------------------------------------------------------
---
gaierror                                 Traceback (most recent call last)
c:\python37\lib\site-packages\urllib3\connection.py in _new_conn(self)
    140             conn = connection.create_connection(
--> 141                 (self.host, self.port), self.timeout, **extra_k
w)
    142

c:\python37\lib\site-packages\urllib3\util\connection.py in create_connect
ion(address, timeout, source_address, socket_options)
     59
---> 60      for res in socket.getaddrinfo(host, port, family, socket.SOCK_STREA
M):
     61          af, socktype, proto, canonname, sa = res

c:\python37\lib\socket.py in getaddrinfo(host, port, family, type, proto,
flags)
    747     addrlist = []
--> 748     for res in _socket.getaddrinfo(host, port, family, type, proto, fl
ags):
    749         af, socktype, proto, canonname, sa = res

gaierror: [Errno 11001] getaddrinfo failed

During handling of the above exception, another exception occurred:

NewConnectionError                       Traceback (most recent call last)
c:\python37\lib\site-packages\urllib3\connectionpool.py in urlopen(self,
 method, url, body, headers, retries, redirect, assert_same_host, timeou
t, pool_timeout, release_conn, chunked, body_pos, **response_kw)
    600                                             body=body, headers=head
ers,
--> 601                                             chunked=chunke
d)
    602

c:\python37\lib\site-packages\urllib3\connectionpool.py in _make_request(s
elf, conn, method, url, timeout, chunked, **httplib_request_kw)
    356         else:
--> 357             conn.request(method, url, **httplib_request_kw)
    358

c:\python37\lib\http\client.py in request(self, method, url, body, header
s, encode_chunked)
   1243         """Send a complete request to the server."""
-> 1244         self._send_request(method, url, body, headers, encode_chunked)
   1245

c:\python37\lib\http\client.py in _send_request(self, method, url, body, h
eaders, encode_chunked)
   1289             body = _encode(body, 'body')
-> 1290         self.endheaders(body, encode_chunked=encode_chunked)
   1291

c:\python37\lib\http\client.py in endheaders(self, message_body, encode_c
hunked)
   1238             raise CannotSendHeader()
-> 1239         self._send_output(message_body, encode_chunked=encode_chunked)
   1240
```

```
c:\python37\lib\http\client.py in _send_output(self, message_body, encode_
chunked)
   1025          del self._buffer[:]
-> 1026          self.send(msg)
   1027
```

```
c:\python37\lib\http\client.py in send(self, data)
    965              if self.auto_open:
--> 966                  self.connect()
    967              else:
```

```
c:\python37\lib\site-packages\urllib3\connection.py in connect(self)
    165      def connect(self):
--> 166          conn = self._new_conn()
    167          self._prepare_conn(conn)
```

```
c:\python37\lib\site-packages\urllib3\connection.py in _new_conn(self)
    149              raise NewConnectionError(
--> 150                  self, "Failed to establish a new connection: %s"
% e)
    151
```

NewConnectionError: <urllib3.connection.HTTPConnection object at 0x000001DD4815
88C8>: Failed to establish a new connection: [Errno 11001] getaddrinfo failed

During handling of the above exception, another exception occurred:

```
MaxRetryError                              Traceback (most recent call last)
c:\python37\lib\site-packages\requests\adapters.py in send(self, request,
stream, timeout, verify, cert, proxies)
    448                      retries=self.max_retries,
--> 449                      timeout=timeout
    450                  )
```

```
c:\python37\lib\site-packages\urllib3\connectionpool.py in urlopen(self,
 method, url, body, headers, retries, redirect, assert_same_host, timeou
t, pool_timeout, release_conn, chunked, body_pos, **response_kw)
    638              retries = retries.increment(method, url, error=e, _pool=self,
--> 639                                          _stacktrace=sys.exc_info
()[2])
    640              retries.sleep()
```

```
c:\python37\lib\site-packages\urllib3\util\retry.py in increment(self, me
thod, url, response, error, _pool, _stacktrace)
    387          if new_retry.is_exhausted():
--> 388              raise MaxRetryError(_pool, url, error or ResponseError(ca
use))
    389
```

MaxRetryError: HTTPConnectionPool(host='web1', port=80): Max retries exceeded wi
th url: / (Caused by NewConnectionError('<urllib3.connection.HTTPConnection object
at 0x000001DD481588C8>: Failed to establish a new connection: [Errno 11001] getadd
rinfo failed'))

During handling of the above exception, another exception occurred:

```
ConnectionError                            Traceback (most recent call last)
<ipython-input-16-5622f6aeca27> in <module>
      2 check_hostname('http://web1/#@example.com:233')
      3 import requests
----> 4 requests.get('http://web1/#@example.com:233')
```

```
      5 requests.get('http://web1/?@example.com:233')
```

c:\python37\lib\site-packages\requests\api.py in get(url, params, **kwargs)

```
     73
     74     kwargs.setdefault('allow_redirects', True)
---> 75     return request('get', url, params=params, **kwargs)
     76
     77
```

c:\python37\lib\site-packages\requests\api.py in request(method, url, **kwargs)

```
     58     # cases, and look like a memory leak in others.
     59     with sessions.Session() as session:
---> 60         return session.request(method=method, url=url, **kwargs)
     61
     62
```

c:\python37\lib\site-packages\requests\sessions.py in request(self, method, url, params, data, headers, cookies, files, auth, timeout, allow_redirects, proxies, hooks, stream, verify, cert, json)

```
    531         }
    532         send_kwargs.update(settings)
--> 533         resp = self.send(prep, **send_kwargs)
    534
    535         return resp
```

c:\python37\lib\site-packages\requests\sessions.py in send(self, request, **kwargs)

```
    644
    645         # Send the request
--> 646         r = adapter.send(request, **kwargs)
    647
    648         # Total elapsed time of the request (approximately)
```

c:\python37\lib\site-packages\requests\adapters.py in send(self, request, stream, timeout, verify, cert, proxies)

```
    514                 raise SSLError(e, request=request)
    515
--> 516             raise ConnectionError(e, request=request)
    517
    518         except ClosedPoolError as e:
```

ConnectionError: HTTPConnectionPool(host='web1', port=80): Max retries exceeded with url: / (Caused by NewConnectionError('<urllib3.connection.HTTPConnection object at 0x000001DD481588C8>: Failed to establish a new connection: [Errno 11001] getaddrinfo failed'))

In [ ]: