

Auto_Connect

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In []: '''

```
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实现国科大校园网自动登录功能，后台实时每隔一分钟检测是否连网

主要解决问题：

1. 控件的隐藏属性使其不能被操作，使用 `js` 脚本设置显示状态为 `block`
2. 登录界面及其他控件定位使用隐式等待
3. 点击后显示反馈的错误信息时间不定，必须使用隐式等待
4. 联网状态查询，使用系统 `ping` 命令传递 5 个包判断是否返回 0
5. 日志按时间周期循环保存和删除

'''

```
from selenium import webdriver
from selenium.webdriver.common.by import By
from selenium.webdriver.support.ui import WebDriverWait
from selenium.webdriver.support import expected_conditions as EC
from selenium.common.exceptions import TimeoutException, NoSuchElementException
from logging.handlers import TimedRotatingFileHandler
import logging
import time
import os
import re
```

In []: # 日期滚动日志

```
log_format = '%(asctime)s--%(filename)s[Line:%(lineno)d]--%(levelname)s--%(message)s'
log_datefmt = '%Y-%m-%d, %A, %H:%M:%S'
```

```

formatter = logging.Formatter(log_format, log_datefmt)
logging.basicConfig(level = logging.INFO)
logger = logging.getLogger()

log_handler = TimedRotatingFileHandler(filename = "/tmp/auto_connect_log", when = 'd',
log_handler.setFormatter(formatter)
log_handler.suffix = "%Y-%m-%d.log"
log_handler.extMatch = re.compile(r"^\d{4}-\d{2}-\d{2}.log$")

logger.addHandler(log_handler)

In [ ]: URL = "http://210.77.16.21"
REMOTE_SERVER = "119.75.217.109"
USERNAME = "2016E8008661018"
PASSWORD = "xxxxxxx"

In [ ]: def is_connected(hostname):
    # exit_code == 0, 网络连通
    exit_code = os.system("ping -c 5 {}".format(hostname))
    if exit_code:
        print("Network is disconnected!")
        logger.info("Network is disconnected!")
        return False
    print("Network is connected!")
    logger.info("Network is connected!")
    return True

In [ ]: def insert_or_click(driver, wait, ID, value):
    """
    Purpose: 根据 ID, 定位控件对象, 判断该 ID 控件对象是否可见, 并执行相应插入或者点击操作
    Input:
        driver: 浏览器驱动
        ID: 控件对象
        value: 控件要插入的值 (空则为点击控件)
    Output:
        False: 未能找到控件
        control: 控件对象
    """

```

```

try:
    control = wait.until(EC.presence_of_element_located((By.ID, ID)))
except:
    print("Sorry, can't find the {}".format(ID))
    logger.info("Sorry, can't find the {}".format(ID))
    return False

if not control.is_displayed():
    print("'{}' is not visible, set it visible".format(ID))
    logger.info("'{}' is not visible, set it visible".format(ID))
    driver.execute_script("document.getElementById('{}').style.display='block'".format(ID))
if value:
    control.clear()
    control.send_keys(value)
    print("'{}' is inserted successfully!".format(ID))
    logger.info("'{}' is inserted successfully!".format(ID))
else:
    control.click()
    print("'{}' is clicked successfully!".format(ID))
    logger.info("'{}' is clicked successfully!".format(ID))

return True

```

In []: # 登录主函数

```

'''
国科大校园网控件 ID 可以由谷歌浏览器按 F12 查找
用户名: username
密码: pwd
记住密码: jizhumNo/jizhumYes
自动连接: tjNoA/tjYesA
连接登录: loginLink_div
错误信息: error_span_content
下线: toLogOut
'''

def login_main(driver, URL, IDs):
    '''
    Purpose: 实现登录国科大校园网
    '''

```

Input:

driver: 浏览器驱动

URL: 登录界面的 *URL*

Output:

-1: 输入有误

0: 网页丢失或者控件 *ID* 有误

1: 登录是否成功

'''

进入登录界面

try:

driver.get(URL)

wait = WebDriverWait(driver, 2)

except:

print("Sorry, the web is lost!")

logger.info("Sorry, the web is lost!")

return 0

处理控件，插入或者点击

for ID in IDs.items():

res = insert_or_click(driver, wait, ID[0], ID[1])

if not res:

return -1

判断是否有错误提示

try:

error_info = wait.until(EC.visibility_of_element_located((By.ID, 'error_span_co

if error_info.text:

print(error_info.text)

logger.info(error_info)

return -1

except:

pass

print(' 无错误提示! ')

logger.info(' 无错误提示! ')

判断是否登录成功

try:

```

        logout = wait.until(EC.visibility_of_element_located((By.ID, 'toLogout')))
        print("Logging Successful!")
        logger.info("Logging Successful!")
        return 1
    except:
        print("Logging Failed!")
        logger.info("Logging Failed")

    return 0

```

```

In [ ]: if __name__ == '__main__':
        IDs = {'username':USERNAME, 'pwd':PASSWORD, 'loginLink_div':''}
        browsers = {"Chrome":"/usr/bin/chromedriver", "Firefox":"/usr/bin/geckodriver"}
        browser = "Chrome"

        # 尝试登录次数
        T = 5
        res = 0
        total_try_cnt = 0

        # 一直在后台监视
        while True:
            # 如果当前未连网
            print("=====")
            logger.debug("=====\\n")
            try_cnt = 0
            while not is_connected(REMOTE_SERVER):
                try_cnt += 1
                total_try_cnt += 1
                print("Trying to log in the UCAS for {}st".format(try_cnt))
                logger.info("Trying to log in the UCAS for {}st".format(try_cnt))

                if browser == 'Chrome':
                    driver = webdriver.Chrome(executable_path=browsers[browser])
                else:
                    driver = webdriver.Firefox(executable_path=browsers[browser])

```

```

        res = login_main(driver, URL, IDs)
        driver.close()
        if res < 0 or try_cnt > T:
            break
# 输入有误
if res < 0:
    break;

# 尝试登录次数过多,5 分钟后继续尝试登录
# 登录成功, 每隔 1 分钟检测连网状态
if try_cnt > T:
    print("Sorry, trying too many times, please try again later!")
    print("Maybe you are in arrears!")
    logger.info("Sorry, trying too many times, please try again later!")
    time.sleep(300)
elif try_cnt > 0:
    print("Enjoy your time!")
    logger.info("Enjoy your time!")
    time.sleep(60)
else:
    time.sleep(60)
print("the service is closed!")
logger.info("the service is closed!")

```

In []: