Selenium WebDriver阶段六 - (与testlink集成，实现自动化与case管理工具联动)

WebDriver
(阶段六)

课程目的：学习调用第三方工具的API，实现与testlink集成。
培训结果：能够熟练掌握testlink公开的api,实现测试用例与脚本结果关联。
课程相关脚本：PracticeEight
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📄 testlink&Mantis整合.docx

课程准备：自己在本机上安装一个xmapp的集成环境
http://yunpan.cn/Q9mmYcpDDv8z2
http://dev.mysql.com/downloads/tools/workbench/

Steps to enable Testlink API via xmlrpc and generate dev key:

1. Open config.inc.php
2. Search for
   /** XML-RPC API availability (disabled by default) */
   $tlCfg->api->enabled = FALSE;
3. Change FALSE to TRUE
   $tlCfg->api->enabled = TRUE;
4. Save config.inc.php
5. Login to Testlink UI as admin
6. Go to 'My Settings'
7. Under API interface, click 'Generate new key'
8. Copy the key generated
9. Substitute your newly generated devKey in the client program
   Example: client = TestlinkAPIClient(devKey="abc04556463cd813a1ea05caf042d42f")

Demo TestLink:http://demo.testlink.org/latest/index.php?caller=login
admin/admin
http://demo.testlink.org/latest/lib/api/xmlrpc/v1/xmlrpc.php

1)TestLink是一个开源的测试用例管理工具，并可以与mantis,jira等缺陷管理工具关联。
至于怎么使用该工具，有不了解的同学可以去网上学习一下，这里我就介绍一下,testlink的一般工作流程：

```
                          ->创建测试用例
1)  创建测试项目  ->创建测试计划 ->创建build name
                          ->创建platform
```

2)选择项目，选择测试计划，选择build name和platform，分配测试用例

XAMPP Control Panel v3.2.1

Modules Service	Module	PID(s)	Port(s)	Actions			
☐	Apache	1944 7584	80, 443	Stop	Admin	Config	
☐	MySQL	164	3306	Stop	Admin	Config	
☐	FileZilla			Start	Admin	Config	
☐	Mercury			Start	Admin	Config	
☐	Tomcat			Start	Admin	Config	

```
21:54:21  [main]    Contr...          ...
21:55:41  [Apache]  Atten...          app...
21:55:44  [Apache]  Statu...          nning
21:59:06  [Tomcat]  Atten...          app...
21:59:08  [mysql]   Attem...          app...
21:59:08  [mysql]   Status change detected: running
21:59:11  [Tomcat]  Status change detected: running
21:59:31  [Tomcat]  Attempting to stop Tomcat
21:59:32  [Tomcat]  Status change detected: stopped
```

Terry:开启此两项

2)脚本执行结果导入Testlink需要指定的关键字：http://localhost/testlink/testlink-1.9.3/login.php

a,xmlrpc.php-我们需要知道该文件所在的url一般为http://ipaddress:port/testlink/lib/api/xmlrpc.php
b,devkey - 开发钥匙，哪里可以得到？该key实际就是你的用户名，用于标明测试用例是谁执行的

TestLink 1.9.3 (Prague) : tsun [admin] [My Settings || Logout]

Project | Requirement Specification | Test Specification | Test Execution | Test Reports | User Management | Eve

Account Settings

Personal data

Login	tsun
First Name	terry
Last Name	
Email	
Locale	English (wide/UK) English is the default development language and is always up to date

Save

Personal password

Old Password	
New Password	
Confirm New Password	

Change password

API interface

Personal API access key = 2f782c29529e69dfa47e399c4af70944

| Demo / testplan1 (4)(3, 1, 0, 0) |
| Suite1 (4)(3, 1, 0, 0) |
| test-1:test case1 for Demo |
| test-2:test case2 for Demo |
| **test-3:test case3 for Demo** |
| test-4:webtest case1 for Demo |

Last execution (any build) - Build : build001

Date : 20/03/2014 11:05:55 - Tested by : tsun - Build : build001 - Sta

Last execution (current build) - Build : build001

Date	Build	Platform	Tested by	Status	Test Case Vers
20/03/2014 11:05:55	build001	winxp	tsun	Passed	1
Notes
自动化上传结果的备注

上传附件这里需要注意的是executionid是表attachments的对应的fk_id的每次的运行叠加：

```
108      try {
109          byte[] byteArray = FileUtils.readFileToByteArray(attachmentFile
110          fileContent = new String(Base64.encodeBase64(byteArray));
111      } catch (IOException e) {
112          e.printStackTrace( System.err );
113          System.exit(-1);
114      }
115
116      Attachment attachment = api.uploadExecutionAttachment(
117          104289, //executionid
118          "ScreenshotFor this Test case-", //title
119          "In this screen the attendant is defining the customer plan", /
120          "Autor:terry1", //fileName
121          "text/xml", //fileType
122          fileContent); //content
123
124      System.out.println("Attachment uploaded");
125  }
126
127  public static void main(String args[]){
128      //the following settings are required;
129      String url = "http://172.28.50.123:88/testlink/lib/api/xmlrpc.php";
130      String devKey = "2f782c29529e69dfa47e399c4af70944";
131      String projectName = "Demo";
132      String tl = "testplan1";
133      String buildName = "build001";
134      String platform = "winxp";
135
136
137      APIObject testlinkapi = new APIObject(url,devKey,projectName,tl,buildNa
138      testlinkapi.getAPI();
139      testlinkapi.getTestCases();
140      testlinkapi.executeTestCase("test case2 for Demo",1,"tested by Terry11"
141      testlinkapi.uploadAttachment("c:\\Google-Maps-soapui-project.xml");
142      System.out.println(testlinkapi.tcase.getFullExternalId());
143      //testlinkapi.tcase.getExecutionOrder()
144
145  }
146 }
147
```

id	fk_id	fk_table	title	description	file_name
185	104283	executions	rd		ad.txt
186	104283	executions	ScreenshotFo...		Autor:terry
187	104284	executions	dfff		ad.txt
188	104284	executions	ScreenshotFo...		Autor:terry
189	1010	executions	ScreenshotFo...		Autor:terry
190	104288	executions	a1		ad.txt
191	104289	executions	ScreenshotFo...		Autor:terry1
NULL	NULL	NULL	NULL	NULL	NULL

Last execution (current build) - Build : build001

Date	Build	Platform	Tested by	Status	Test Case Version	attachments	Delete	Run mode
20/03/2014 14:13:08	build001	winxp	tsun	Passed	1	📁	❌	🔧
Notes

ScreenshotFor this Test case- - Autor:terry1 (98920 bytes, text/xml) 20/03/2014 ❌

c,projectName-项目名
d,planName-计划名
e,buildname
d,测试用例名
在我们对测试用例进行脚本化的时候，以上六个关键字是必须的。我们可以设计一个类专门调用testlink api和取得测试用例，并可以调用执行方法传入测试结果：
以下的类就是一个传入测试名实现结果导入在PracticeEight中有：

```java
public class APIObject {
    private static Logger logger = Logger.getLogger(APIObject.class);
    private static TestLinkAPI api = null;
    private String planName;
    private String projectName;
    private String url ;
    private String devKey;
    private TestCase[] tcs;
    private TestPlan tl;
    private String buildName;
    private String platformName;


    public  APIObject(String url,String devKey,String projectName,String planName,String buildName,String platformName){
        this.url = url;
        this.devKey = devKey;
        this.projectName = projectName;
        this.planName = planName;
        this.buildName = buildName;
        this.platformName = platformName;
    }

    public TestLinkAPI getAPI() {
        if (null == api) {
            try {
                api = new TestLinkAPI(new URL(url), devKey);
            } catch (TestLinkAPIException te) {
                logger.error(te.getMessage(), te);
            } catch (MalformedURLException mue) {
                logger.error(mue.getMessage(), mue);
            }
        }
        return api;
    }
    public void getTestCases(){
        this.planName = planName;
        this.projectName = projectName;
        tl = api.getTestPlanByName(planName,projectName);
        tcs=api.getTestCasesForTestPlan(tl.getId(), null, null,null,null,null,null,null,ExecutionType.MANUAL,null,null);
        /*for(TestCase tc:tcs){
            System.out.println(tc.toString());
        }*/

    }


    public void executeTestCase(String testcasename,int status){
        Integer planID = tl.getId();
        Integer tcID = 0;
        for(TestCase tc:tcs){
            String casename = tc.getName();
            if(casename.equals(testcasename)){
                tcID = tc.getId();
                break;
            }
        }

        switch(status){
            case 1:
                api.reportTCResult(tcID, null,planID, ExecutionStatus.PASSED, null, buildName," 自动化上传结果的备注", null, null, null, platformName, null, null);
                break;
            case 2:
                api.reportTCResult(tcID, null,planID, ExecutionStatus.FAILED, null, buildName," 自动化上传结果的备注", null, null, null, platformName, null, null);
                break;
            case 3:
                api.reportTCResult(tcID, null,planID, ExecutionStatus.BLOCKED, null, buildName," 自动化上传结果的备注", null, null, null, platformName, null, null);
                break;
            default:
                System.out.println("please check your status");
```

```java
public void uploadAttchment(String picturePath){
    File attachmentFile = new File(picturePath);
    String fileContent = null;

    try {
            byte[] byteArray = FileUtils.readFileToByteArray(attachmentFile);
             fileContent = new String(Base64.encodeBase64(byteArray));
    } catch (IOException e) {
            e.printStackTrace( System.err );
            System.exit(-1);
    }

    Attachment attachment =  api.uploadExecutionAttachment(
            104289, //executionid
            "ScreenshotFor this Test case-", //title
            "In this screen the attendant is defining the customer plan", //description
            "Autor:terry1", //fileName
            "text/xml", //fileType
            fileContent); //content

    System.out.println("Attachment uploaded");
}
```

我们再看看脚本中怎么样调用该类中的一些方法：

```java
@BeforeClass
public void startFirefox(){
    url = "http://172.28.50.123:88/testlink/lib/api/xmlrpc.php";
    devKey = "2f782c29529e69dfa47e399c4af70944";
    projectName = "Demo";
    tl = "testplan1";
    buildName = "build001";
    platform = "winxp";
}
```

大家可以将这个@BeforeClass中的这些参数放入xml中进行参数化。

```
@Test
public void login126DotCom(){
    caseName = "test case3 for Demo";
    LoginPage loginpage = new LoginPage(ffwb);
    HomePage homepage = new HomePage(ffwb);
    loginpage.navigate(data.getValue("url"));
    loginpage.setUserName(data.getValue("username"));
    loginpage.setPassWord(data.getValue("password"));
    loginpage.login();
    Assert.assertEquals(homepage.hometab.isDisplayed(), false);
}


@AfterMethod
public void import2TestLink(ITestResult result) thr
    testlinkapi.getAPI();
    testlinkapi.getTestCases();
    testlinkapi.executeTestCase(caseName,result.getStatus());
}
```

创建一个全局的caseName

通过得到**testng**的测试结果，转入到我们的

当我们运行时就可以看到我们的结果就导入到testlink中了。

Date : 07/10/2013 17:44:55 - Tested by : tsun - Build : build001 - Status : Failed

Last execution (current build) - Build : build001

Date	Build	Platform	Tested by	Status	Test Case Version	attachments	Delete	Run mode
07/10/2013 17:44:55	build001	winxp	tsun	Failed	1			
Notes								

相关文档：http://testlinkjavaapi.sourceforge.net/sample3.html

https://bitnami.com/sign_in