LISA SDK: Create Your Own Assertion

Table of Contents

Description	3
Pre-requisite	3
Steps to Create a Custom Assertion	3
Instructions to Deploy a New Assertion	6
Steps for Implementation:	6
References:	9

Description

This document is intended to be used by any individual who wishes to create their own Assertion to handle a specific situation. The LISA software provides built-in support for custom assertions.

Pre-requisite

- Java IDE must be installed on machine.
- LISA must be installed on machine.

Steps to Create a Custom Assertion

1. Open IDE and create a new Java Project.

New Java Project	
Create a Java Project	
Create a Java project in the workspace or	In an external location.
Project name: LisaCustomAssertion San	nple
Location: C:\eclipse\workspaces\17thFe	b2012\LisaCustomAssertic Browse
JRE	
• Use an execution environment JRE:	JavaSE-1.6
O Use a project specific JRE:	jre7 👻
Ouse default JRE (currently 'jre7')	Configure JREs
Project layout	
Use project folder as root for source	es and class files

2. Provide a Package name and Java Class name.

New Java Class	to Line currenterert (X
Java Class Create a new Jav	va class.	C	
Source folder:	LISACustomAssertion/src		Br <u>o</u>
Pac <u>k</u> age:	com.itko.lisa.assertion		Bro
Enclosing type	:		Bro
Na <u>m</u> e:	AssertJDBC		
Modifiers:	● public	protected	
<u>S</u> uperclass:	java.lang.Object		Bro
Interfaces:			^

- 3. Add External Libraries in build Path from LISA_HOME/bin directory as shown below
 - a. Lisa-core.jar
 - b. Lisa-agent.jar

Properties for LISACustom	Filter			Ê Fi	nd Q
type filter text	Java Build Path		$\Leftrightarrow \bullet \Leftrightarrow \bullet \bullet$	=	
Resource	😕 Source 🗁 Projects 🛋 L	ibraries 🍫 Order and Export			
Builders	IARs and class folders on the	build path:			
Java Code Style					
Java Compiler	JAR Selection	and the local data and the second second			×
Java Editor Javadoc Location		Lisa → bin →	And the second state	✓ ↓ Search bin	۶
Project Facets	Organize 🔹 New f	older			0
Project References Run/Debug Settings	☆ Favorites	Name	Date modified	Туре	Size
Server	E Desktop	l browser	1/16/2015 3:25 PM	File folder	
Task Repository	🐌 Downloads	🗼 jre-patches	1/16/2015 3:25 PM	File folder	
Task Tags	💫 Recent Places	🐌 sigar	1/16/2015 3:25 PM	File folder	
WikiText		🗎 lisa-acl.jar	4/15/2014 1:28 PM	Executable Jar File	98 K
	🔛 Libraries	≡ 📓 lisa-acl-api.jar	4/15/2014 1:28 PM	Executable Jar File	70 K
	Documents	📓 lisa-agent.jar	4/15/2014 1:28 PM	Executable Jar File	5,668 K
	- 🕹 Music	lisa-annotations.jar	4/15/2014 1:28 PM	Executable Jar File	103 K
	Se Pictures	📓 lisa-cloud.jar	4/15/2014 1:28 PM	Executable Jar File	150 K
a)	lacktrian Subversion	lisa-core.jar	4/15/2014 1:29 PM	Executable Jar File	28,326 K
()	💐 Videos	lisa-editor.jar	4/15/2014 1:29 PM	Executable Jar File	756 K
ings 0 others (Filter match	od	📓 lisa-esb.jar	4/15/2014 1:28 PM	Executable Jar File	1,967 K
ings, o others (Filter filaten	Computer	■ lisa-αlass-core.iar	4/15/2014 1:28 PM	Executable Jar File	112 К
100 of 121 items)	TOSDisk (C:)				,
th specifies execution envi	ron File	name: "lisa-core.jar" "lisa-agent.jar"		▼.jar;*.zip	•
path specifies execution envi	ron				

- 4. Java Class created in Step 2 must extend "CheckResult".
- 5. Implement all mandatory methods. Below are the methods to implement:
 - a. **getTypeName** method: This method provides the name that is used to identify the custom assertion in the model editor.

```
public String getTypeName()
```

```
{
```

return "Assert JDBC Result Set";

```
}
```

b. **getCustomParameters** method: In this method, you create a ParameterList and add a Parameter for each parameter to the assertion., add a **Parameter** to the ParameterList for the assertion.

```
public ParameterList getCustomParameters ()
```

```
{
```

```
ParameterList p = new ParameterList();
p.addParameter( new Parameter( "Is FTP", ISFTP_PARAM, new
p.addParameter(new Parameter(FILE_PARAM_DESC, "file", this.file,
OutputStream.class));
```

```
}
```

c. **initialize** method: Initialize the custom assertion object with the value of the DOM Element. public void initialize(Element e)

```
{
```

this.file = XMLUtils.getAttributeOrChildText(e, "file");

}

d. **evaluate** method: The TestExec parameter provides access to the test environment, such as logs and events. The Object parameter provides access to results returned from executing the node. The Boolean return type returns true if the assertion is true. Otherwise it returns false.

public boolean evaluate(TestExec testExec)

```
{
//Provide main Logic here
ł
 package com.itko.lisa.customAssert;
@import com.itko.lisa.core.ModuleLegacy;
 public class AssertJDBCWithExcel extends CheckResult {
          private static final String WARNING FOUND = ModuleLegacy.resources.get("rset.chkresset.
 protected static Log cat = LogFactory.getLog("com.itko.lisa.customAssert.AssertJDBCWithExcel")
    private static final String FILE PARAM = "file";
    private static final String FILE_PARAM_DESC = ModuleLegacy.resources.get("test.fsavep2f.fi
      private static final String Sheet PARAM = "sheet name"; ...
      private String sheet name;
      private String file;
       private boolean errorWhenNotAppropriate = true;
        public AssertJDBCWithExcel() {}
        Т
          public boolean isErrorWhenNotAppropriate()[]
          public void initialize (Element rNode)
          public void setErrorWhenNotAppropriate(boolean error)[]
          public String getFile()[]
           public void setFile(String file)[]
          public String getTypeName()[]
          public ParameterList getCustomParameters()[...]
          protected boolean evaluate (TestExec ts, Object oresult)
```

6. Create .lisaextensions file in the same Project Folder and provide the assertion details as shown below:



7. Export the project into a jar file on your local system.

JAR Export	1 (1)	dara)			
JAR File Specification Define which resources should be exported into t					
Select the resources to export:					
IISACustomAssertion	*	Classpath			
IISACustomFilter		🔽 🖹 .project			
IISACustomFilter_SaveResultset	=				
🛛 🗁 🔛 🔛 MainFrameTestKit	-				
▷ 🔲 🚧 OTAClient					
▷ 🕅 🔛 Practice	-				
	•				
Export generated class files and resources					
Export all output folders for checked projects					
Export Java source files and resources					
Export refactorings for checked projects. <u>Select refactorings</u>					
Select the export destination:					
JAR file: ::\Users\mmeht24\Desktop\Amex_Docs	\Lisa\	hotDeploy\assertResultSet.jar 👻	Browse		

Instructions to Deploy a New Assertion

- 1. Copy the JAR file that contains custom assertion and lisaextensions file to the LISA_HOME/hotDeploy directory. If your custom assertion depends on any third-party libraries, copy those libraries to the LISA_HOME/hotDeploy directory.
- 2. Navigate to LISA HOME and open the file "typemap.properties" with notepad. Navigate to Assertions section of the file and provide the class name with package name as shown below:



3. Restart LISA, if it is in running state.

Steps for Implementation:

1. Create a Project in LISA workstation.



Create a Test Case.



3. Add a Test Step

Add step Paste	Steps in model Web/Web Services Java/J2EE Other Transactions Utilities	
	External/SubProcess JMS Messaging BEA	
	Sun JCAPS Oracle TIBCO Sonic webMethods IBM	 JCAPS Messaging (Native) JCAPS Messaging (JNDI) Message Consumer Read a File (Disk, URL, or Classpath) Step Web Service Execution (XML) Raw SOAP Request SQL Database Execution (JDBC)
	SAP Selenium Virtual Service Environment Pathfinder Custom Extensions Mobile	 FTP Step This step is used to perform database functions using JDBC database driver. The step can issue typical SQL-syntax such as SELECT, UPDATE, INSERT, as well as step rocedures. The user must ensure the driver is in the L classpath (for instance by placing in the hotdeploy directory).

4. Open the step and provide the required Details.

Connection Info JDBC Driver: {{JDBC_Driver}} Connect String: {{ConnectString}} Max Rows to Fetch: -1 Max Rows to Fetch: -1 Soll Statement call SYSPROC. JEAL TYPE STRING STRING STRING STRING STRING STRING Court STRING ST	SQL Database Executio	on (JDBC) - SP Execution fo	or Positive Scenario	
JDBC Driver: {{JDBC_Driver}} Connect String: {{ConnectString}} Max Rows to Fetch: -1 Max Rows to Fetch: -1 SOL Statement Cell SYSPROC. JTTERENT, ?, ?, ?, ?, ?) Cell SYSPROC. JTTERENT, ?, ?, ?, ?, ?) Cell SYSPROC. JTTERENT, ?, ?, ?, ?, ?) Parameter (?) NT OUT (Actual_O_RC) INT OUT (Actual_O_SQL_STA STRING OUT (Actual_O_SQL_STA STRING OUT (Actual_O_ERTX) STRING OUT (Actual_O_ERTX)	Connection Info			Execution Info
Connect String: ((ConnectString)) Max Rows to Fetch: -1 Max Rows to Fetch: -1 Password: ••••••• Vuse Connection O Returns Result Set If SQL error: Generate Warning SQL Statement call SYSPROC. J STRING STRING NN Coll Statement Call SYSPROC. J STRING NN ((SE_NO)) INT OUT ((Actual_0_SQL_STA STRING OUT ((Actual_0_SQL_STA STRING OUT ((Actual_0_SQL_STA STRING OUT ((Actual_0_ERTX)) STRING OUT ((Actual_0_ERTX))	JDBC Driver: {	{JDBC_Driver}}		User ID: {{UserName}}
Max Rows to Fetch: -1 Max Rows to Fetch: -1 Sol Statement call SYSPROC. J Type Mode Parameter (?) INT OUT (Actual_O_RC)) INT OUT (Actual_O_SQL_COC STRING OUT (Actual_O_SQL_COC STRING OUT (Actual_O_SQL_STA STRING OUT (Actual_O_ERTX)) Test Connection Test/Execute	Connect String:	{ConnectString}}	_	Password:
Sol. Statement Call SYSPROC. Jack Construction Call System Call Sys	Max Rows to Fetch:	1		Keen Connection Open
Image: Connection Pace If SQL error: Call SYSPROC. Call SYSPROC. STRING INT OUT ((Actual_O_SQL_STA STRING INT OUT STRING STRING OUT ((Actual_O_SQL_STA)) STRING OUT ((Actual_O_ERTX))	nax nows to return	L		Reep connection open
Returns Result Set If SQL error: Generate Warning SOL Statement Call SYSPROC. JERENINGER, P.				Use Connection Pool
SOL Statement Call SYSPROC. J Proceeding Processing (Sol Statement Call SYSPROC. J Processing Pro				Returns Result Set
Call SYSPROC. JEE Connection Test/Execute				If SQL error: Generate Warning
transmeter (?) Type Mode Value STRING IN ((SE_NO)) INT OUT {(Actual_O_RC)} INT OUT {(Actual_O_SQL_COUNT STRING OUT {(Actual_O_SQL_STANS STRING OUT {(Actual_O_ERTX)}	SQL Statement call SYSPROC.J	·		
STRING IN INT OUT INT OUT STRING OUT STRING OUT STRING OUT	arameter (?)	Туре	Mode	Value
INT OUT {{Actual_O_RC}} INT OUT {{Actual_O_SQL_COU STRING OUT {{Actual_O_SQL_STA STRING OUT {{Actual_O_ERTX}} STRING OUT {{Actual_O_ERTX}}		STRING	IN	{{SE_NO}}
INT OUT {{Actual_O_SQL_COUNT } STRING OUT {{Actual_O_SQL_STAND } STRING OUT {{Actual_O_ERTX}}		INT	OUT	{{Actual_O_RC}}
STRING OUT {{Actual_O_SQL_STA STRING OUT {{Actual_O_ERTX}}		INT	OUT	{{Actual_O_SQL_CODE}]
STRING OUT {{Actual_O_ERTX}}		STRING	OUT	{{Actual_O_SQL_STATE
Test Connection Test/Execute		STRING	001	{{Actual_O_ERTX}}
Test Connection Test/Execute				
Test Connection Test/Execute		🕶 🖬 🔛 💷	Find:	
				Test Connection Test/Execute SQ

5. On the right side, under Step Information, Click on 🔸 button under Assertions Section and select the assertion created under Custom Submenu.

		HTML	•
	_	Database	•
	ы	XML	•
		Virtual Service Environment	•
	ľ	Other	•
	í	Mobile	•
Compare JDBC Result Set with an Excel File		Custom	•

6. Open the Assertion and provide the values for parameters.

▼ Compare JDB	C Result Set with an Excel File - Compare JDBC Result Set with an Excel File	₿ ⇒
Name: Compa	re JDBC Result Set with an Excel File 🦘 If False 🔻 then Fail the Test	•
Log: IC Resu	It Set with an Excel File checks for: false is of type: Compare JDBC Result Set with an Excel	File .
	Run Assertion	
Location:	{{LISA_PROJ_ROOT}}/Data/Baseline Results/JZSEADDR/JZSEADDR_ResultSet.xls	
Sheet Name:	{{TC_ID}}	

7. Click Start a new ITR and execute the Test Case to Test the Assertion.

References:

1. <u>https://support.ca.com/cadocs/7/CA%20LISA%207%205%202-</u> ENU/Bookshelf_Files/PDF/LISA_Developer_ENU_r7.5.2.pdf