

DevTest Solutions

Software Development Kit (SDK) Migration Guide

Version 8.0



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Chapter 1: Upgrading SDK Components

Using the SDK covers the most common API changes in the most common extensions. This guide is not intended to be comprehensive for everything that can possibly be in an SDK extension. Rather, this guide highlights the SDK API history, including mandatory changes that are required for forward-compatibility.

This document is targeted toward an audience who has studied the DevTest 8.0 product documentation *and* obtained DevTest 8.0 training from CA. Mastery of previous LISA versions expedites the DevTest 8.0 learning curve. However, only proper DevTest 8.0 education can prepare you to enjoy a smooth transition and realize maximum value.

We highly recommend that you engage professional services to assist with the DevTest 8.0 upgrade. Contact your account executive for more details.

Note: All SDK components must be compiled with Java 7 to run in DevTest 8.0.

This guide is organized by component. It provides the relevant history of each component, starting with LISA 4.0 or the LISA version in which the component was introduced.

The most effective way to use this guide is as follows:

1. Identify the section for your component type.
2. Identify the subsection for your current version.
3. Follow the notes on the API changes through version 8.0 and update your code as required.

SDK Documentation

The following SDK documentation is available:

- *Using the SDK* is available from the All Documentation section of the *DevTest Bookshelf*.
- JavaDocs for current and historical versions of LISA are available in the **doc** folder of your installation directory..

Java Version Notes

Once DevTest 8.0 is successfully installed and configured, complete the following steps to upgrade your SDK components:

- DevTest 8.0 is supported in Java 7. All SDK components must be compiled with Java 7. Most relevant changes to the core Java language are backwards compatible.
- LISA 7.5 was supported in Java 7.
- LISA 4.0 was supported on Java 5.
- LISA 4.5 was supported on Java 5.
- LISA 4.6 was supported on Java 5.
- LISA 5.0 was supported on Java 5.
- LISA 6.0 was supported on Java 6.
- LISA 6.1 was supported on Java 7.
- LISA 7.0 was supported on Java 7.
- LISA 7.1 was supported on Java 7.

For more information about core language changes see the following web pages:

- Java 6 Features and Enhancements:
<http://www.oracle.com/technetwork/java/javase/features-141434.html>
- Java 6 Release Notes:
<http://www.oracle.com/technetwork/java/javase/releasenotes-136954.html>
- Java 7 Features and Enhancements:
<http://www.oracle.com/technetwork/java/javase/jdk7-relnotes-418459.html>
- Java 7 Release Notes:
<http://www.oracle.com/technetwork/java/javase/7u-relnotes-515228.html>

Assertion Updates

SDK Assertion components extend **com.itko.lisa.test.Assertion**.

4.0 to 4.5

No changes that affect SDK components.

4.5 to 4.6

No changes that affect SDK components.

4.6 to 5.0

- **com.itko.lisa.test.Assertion** now also implements the **com.itko.lisa.model.IWriteXML** interface, which affects how data is persisted. Few SDK components need to override the framework level behavior. For more information, see the JavaDocs in the **doc** folder of your installation directory.
- Added a reference to the **com.itko.lisa.test.TestCase** class, the test case on which the assertion operates, and corresponding getters and setters **getTc()** and **setTc(TestCase tc)**.
- Added **getEvaluatedLongMsg()**, which provides a more user-friendly error message when the assertion fails.
- Added global Assertion support with corresponding methods:
 - **public void markAssertionAsGlobal(boolean isGlobal)**
 - **public boolean isGlobalAssertion()**
 - **public boolean isScopeLocal()**
 - **public boolean isScopeGlobal()**

5.0 to 6.0

No changes that affect SDK components.

6.0 to 6.1

com.itko.lisa.test.Assertion now also implements the **com.itko.lisa.test.NameGenerator** interface, which controls how default component names are generated. This change does not affect the legacy SDK components. For more information, see the JavaDocs in the **doc** folder of your installation directory.

6.1 to 7.0

No changes that affect SDK components.

7.0 to 7.1

No changes that affect SDK components.

7.1 to 7.5

No changes that affect SDK components.

7.5 to 8.0

No changes that affect SDK components.

Companion Updates

SDK Companion components extend **com.itko.lisa.test.SimpleCompanion**.

4.0 to 4.5

No changes that affect SDK components.

4.5 to 4.6

No changes that affect SDK components.

4.6 to 5.0

SimpleCompanion now extends **com.itko.lisa.test.CompanionBase** instead of implementing the **com.itko.lisa.test.CompanionInterface** directly. This update does not directly affect SDK components, although the following methods were added to the underlying interfaces.

- **public Object getCustomParams()**
- **public void writeSubXML(PrintWriter ps)**
- **static public void writeSubXML(PrintWriter ps, ParameterList params)**

5.0 to 6.0

- Added public void **setParameters (ParameterList parameters)** method. This method assigns the parameters, which can contain custom parameters and parameters that are injected by LISA. For example, {@code type}, which indicates the classname of the companion.
- Added **protected ParameterList removeDuplicates (ParameterList plist)** method, which is a helper method to scrub duplicate Parameter values. This method is called by **setParameters()**.

6.0 to 6.1

No changes that affect SDK components.

6.1 to 7.0

No changes that affect SDK components.

7.0 to 7.1

No changes that affect SDK components.

7.1 to 7.5

No changes that affect SDK components.

7.5 to 8.0

No changes that affect SDK components.

Filter Updates

SDK Filter components extend **com.itko.lisa.test.FilterBaseImpl**.

4.0 to 4.5

No changes that affect SDK components.

4.5 to 4.6

No changes that affect SDK components.

4.6 to 5.0

- The underlying **FilterInterface** now implements **IWriteXML** and added the following methods to support persisting data:
 - **static public void writeXML(PrintWriter pw, ParameterList pl)**
 - **public void writeXML(PrintWriter ps)**
 - **static public void writeXMLHeader(PrintWriter ps, String type, String valueToFilterPropKey)**
 - **protected void writeSubXML(PrintWriter ps)**
 - **static public void writeXMLFooter(PrintWriter ps)**
- Replaced **public Collection<FilterNodeConnection> getFilterNodeConnections(ParameterList params)** with **public void, gatherFilterStepConnections(String stepName, ParameterList params, Collection<StepConnection> stepConnections)** method. This method returns a **Collection** of the ways that a filter can attempt to pass execution to a specific node. This change is unlikely to affect SDK components.
- Added support for global filters, which includes the following methods:
 - **public boolean isScopeLocal()**
 - **public boolean isScopeGlobal()**

5.0 to 6.0

No changes that affect SDK components.

6.0 to 6.1

Added implementation of the **com.itko.lisa.test.NameGenerator** interface, which controls how default component names are generated. This change does not affect the legacy SDK components. For more information, see the JavaDocs in the **doc** folder of your installation directory.

6.1 to 7.0

No changes that affect SDK components.

7.0 to 7.1

No changes that affect SDK components.

7.1 to 7.5

No changes that affect SDK components.

7.5 to 8.0

No changes that affect SDK components.

Step Updates

Simple SDK Steps or Nodes implement the **`com.itko.lisa.test.CustJavaNodeInterface`**.

4.0 to 4.5

No changes that affect SDK components.

4.5 to 4.6

No changes that affect SDK components.

4.6 to 5.0

No changes that affect SDK components.

5.0 to 6.0

No changes that affect SDK components.

6.0 to 6.1

No changes that affect SDK components.

6.1 to 7.0

No changes that affect SDK components.

7.0 to 7.1

No changes that affect SDK components.

7.1 to 7.5

No changes that affect SDK components.

7.5 to 8.0

No changes that affect SDK components.

Data Protocol Updates

Data Protocols became extensible in LISA 5.0 and extend **com.itko.lisa.vse.stateful.protocol.DataProtocol**.

5.0 to 5.0.25

- LISA 5.0.25 introduced the **com.itko.lisa.vse.stateful.common.DataProtocolFilter** to support more complex data configuration requirements. Models that were created in LISA before 5.0.25 do not open in LISA 7 and must be re-created.

5.0 to 6.0

- Added public void **updateUnknownStatelessResponse(Response response)**, which is used by subclasses to update the given default response for unknown stateless requests.

6.0 to 6.1

- Added the **com.itko.lisa.vse.stateful.protocol.DataProtocolConfiguration** object with getters and setters: **public DataProtocolConfiguration getConfig()** and protected void **setConfig(DataProtocolConfiguration config)**. For more information, see the JavaDocs in the **doc** folder of your installation directory.

6.1 to 7.0

- Added **com.itko.lisa.common.LisaComponentConfig**, which is extended by type-specific configuration objects that are used to persist unparsed and parsed. That is, data that has been processed by **TestExec.parseInState()** for all SDK components. **com.itko.lisa.vse.stateful.protocol.DataProtocolConfiguration** still exists and should only be used for **DataProtocols**.

7.0 to 7.1

No changes that affect SDK components.

7.1 to 7.5

No changes that affect SDK components.

7.5 to 8.0

No changes that affect SDK components.

Transport Protocol Updates

Extensible Transport Protocols were introduced in LISA 5.0 and extend **com.itko.lisa.vse.stateful.protocol.TransportProtocol**.

5.0 to 6.0

Transport Protocols became extensible by the SDK.

6.0 to 6.1

- Added the **com.itko.lisa.vse.stateful.protocol.DataProtocolConfiguration** object, which can also be used with Transport Protocols, with getters and setters: **public DataProtocolConfiguration getConfig()** and protected void **setConfig(DataProtocolConfiguration config)**. For more information, see the JavaDocs in the **doc** folder of your installation directory.
- Added protected **TestExec getTestExec()** to provide consistent access to **TestExec**.
- Added public **RecorderSelector.SmartWizardStep** **getSmartWizardStep(RecordingWizard wizard, WizardPhase phase)**

6.1 to 7.0

- Added **com.itko.lisa.common.LisaComponentConfig** which is extended by type-specific **TransportProtocol** configuration objects that are used to persist unparsed and parsed. That is, data that has been processed by **TestExec.parseInState()**.

7.0 to 7.1

No changes that affect SDK components.

7.1 to 7.5

No changes that affect SDK components.

7.5 to 8.0

No changes that affect SDK components.

Body Carrier Updates

com.itko.lisa.vse.stateful.model.BodyCarrier was introduced in LISA 6.0. This is a base class for objects that need to have both meta data and a body, such as:

- `com.itko.lisa.vse.stateful.model.Request`
- `com.itko.lisa.vse.stateful.model.Response`
- `com.itko.lisa.vse.stateful.model.TransientResponse`.

6.0.7

- Deprecated **public String getBodyText()**, replaced by **getBodyAsString()**.
- Deprecated **public void setBodyText(String text)**, replaced by **setBody(String body)**.
- Deprecated **public byte[] getBodyBytes()**, replaced by **getBodyAsByteArray()**.
- Deprecated **public void setBodyBytes(byte[] body)**, replaced by **setBody(byte[] body)**.

6.0 to 6.1

No changes that affect SDK components.

6.1 to 7.0

Added the **com.itko.lisa.asset.vse.IBodyCarrier** interface.

Implemented a more informative **toString()** method.

7.0 to 7.1

No changes that affect SDK components.

7.1 to 7.5

No changes that affect SDK components.

7.5 to 8.0

No changes that affect SDK components.

Request Updates

com.itko.lisa.vse.stateful.model.Request represents the request side of a VSEtransaction.

5.0 to 6.0

- LISA 5.0 persisted Service Images to a database. LISA 6.0 and later persists Service Images to the file system. This change resulted in a large impact to the Request API, but not in areas that affect SDK components. For more information, see the JavaDocs in the **doc** folder of your installation directory.

6.0 to 6.1

- See [Body Carrier](#) (see page 18) for details about setting and accessing the Request body.

6.1 to 7.0

No changes that affect SDK components.

7.0 to 7.1

No changes that affect SDK components.

7.1 to 7.5

No changes that affect SDK components.

7.5 to 8.0

No changes that affect SDK components.

Response Updates

com.itko.lisa.vse.stateful.model.Response represents the response side of a VSE transaction during recording.

5.0 to 6.0

- LISA 5.0 persisted Service Images to a database. LISA 6.0 and later persists Service Images to the file system. This change resulted in a large impact to the Response API, but not in areas that affect SDK components. For more information, see the JavaDocs in the **doc** folder of your installation directory.

6.0 to 6.1

- See [Body Carrier](#) (see page 18) for details about setting and accessing the Response body.

6.1 to 7.0

No changes that affect SDK components.

7.0 to 7.1

No changes that affect SDK components.

7.1 to 7.5

No changes that affect SDK components.

7.5 to 8.0

No changes that affect SDK components.

Transient Response Updates

com.itko.lisa.vse.stateful.model.TransientResponse represents the response side of a VSEtransaction during playback.

5.0 to 6.0

- LISA 5.0 persisted Service Images to a database. LISA 6.0 and later persists Service Images to the file system. This change resulted in a large impact to the Response API, but not in areas that affect SDK components. For more information, see the JavaDocs in the **doc** folder of your installation directory.
- **public TransientResponse(Response r)** was replaced by **com.itko.lisa.vse.stateful.model.Response.createTransientCopy()**.

6.0 to 6.1

- See [Body Carrier](#) (see page 18) for details about setting and accessing the TransientResponse body.

6.1 to 7.0

- See [Body Carrier](#) (see page 18) for details about setting and accessing the TransientResponse body.

7.0 to 7.1

No changes that affect SDK components.

7.1 to 7.5

No changes that affect SDK components.

7.5 to 8.0

No changes that affect SDK components.

TCP Delimiter Updates

TCP Delimiters were introduced with the TCP Protocol in LISA 6.0. They implement the **com.itko.lisa.vse.stateful.protocol.tcp.delimiters.TCPDelimiter** interface.

6.0 to 6.1

No changes that affect SDK components.

6.1 to 7.0

No changes that affect SDK components.

7.0 to 7.1

No changes that affect SDK components.

7.1 to 7.5

No changes that affect SDK components.

7.5 to 8.0

No changes that affect SDK components.

API Notes

5.0 to 6.0

Changed the signature in **com.itko.lisa.vse.stateful.DelayedResponder** from **invokeLater(uniqueId, action, delayTime)** to **invokeLater(testExec, action, delayTime)**.

6.1 to 7.0

- Removed the following methods from **com.itko.util.StrUtil**.
ModuleCore.resource.get(), **ModuleVSE.resource.get()**, **Module*.resource.get()**..
methods. Replace these methods.
 - **public static String get(String key, Object[] args)**
 - **public static String get(String key)**
- Removed the following methods from **com.itko.util.Strings**.
ModuleCore.resource.get(), **ModuleVSE.resource.get()**, **Module*.resource.get()**..
methods. Replace these methods.
 - **public static String get(String key)**

7.0 to 7.1

No changes that affect SDK components.

7.1 to 7.5

No changes that affect SDK components.

7.5.1

Added a new **getListenersCount()** method that produces a count of listeners.

Originally, this function was performed by the **getListeners()** API method, but this method was deprecated in 6.0. If you are using the **getListeners()** method, update your tests to use the new **getListenersCount()** method.

7.5.1 to 8.0

No changes that affect SDK components.