

Guide for CIMOM Monitor

Platform Component Library

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1. Introduction

1.1 Introduction to CIM & CIMOM

The Common Information Model (CIM) allows for the exchange of management information in a platform-independent and technology-neutral way. It is an object-oriented model, describing an organization's computing and networking environments (its hardware, software and services). All managed elements are positioned within this model, clarifying semantics, streamlining integration and reducing costs by enabling end-to-end multi-vendor interoperability in management systems.

The CIM Object Manager (CIMOM) manages CIM objects on a WBEM-enabled system. A CIM object is a representation, or model, of a managed resource, such as a printer, disk drive, or CPU. When a WBEM client application accesses information about an object, the CIMOM contacts either the provider for that object or the CIM Object Manager Repository. Providers are classes that communicate with managed objects to access data. A WBEM client application might request data from a managed resource that is not available from the CIM Object Manager Repository. In this case, the CIM Object Manager forwards the request to the provider for that managed resource. The provider dynamically retrieves the information.

1.2 About the authors

All of the owners of this technology are from IBM Greater China STG Development Lab:

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- Jun Wei Zhang, zhjunwei@cn.ibm.com

1.3 Introduction to CIMOM Monitor

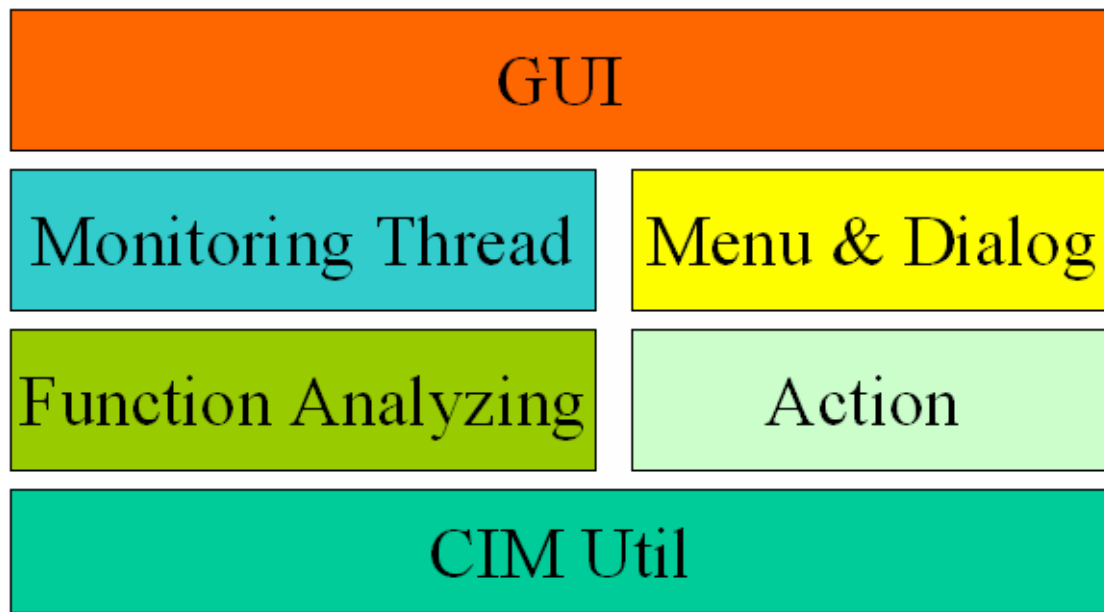
CIMOM Monitor is a tool to automatically monitor changes inside the CIMOM server. The coverage of the tool includes instances and properties changes, as well as events delivered with indications.

1.3.1 Objective of CIMOM Monitor

- Provides an easier and automatic way of monitoring CIM instances changes with specified classes.

- Provides an easier and automatic way of monitoring properties of CIM instances changes.
- Provides an easier and automatic way of monitoring events sent from the CIMOM.

1.3.2 Architecture



2. Steps to use this tool

- 1) Install IBM jre 1.4.2;
- 2) Extract CIMOMMonitor.zip to some place, like D:\. You should see directory D:\CIMOMMonitor.
- 3) Download SBLIMCIMClient.jar library and save it to D:\CIMOMMonitor\lib;
- 4) Enter D:\CIMOMMonitor folder, and execute “run.bat” file.

Notes: when unzipping “CIMOMMonitor.zip”, please pay attention to the name of target folder, if the name of folder is too long or contains any Complex language words, the execution may fail.

2.1 Download SBLIMCIMClient library

Go to url:

http://sourceforge.net/project/showfiles.php?group_id=128809&package_id=164895

(If the url doesn't work, please go to <http://www.sourceforge.net> and search “SBLIM”)

Download: sblimCIMClient.jar, the version should be 1.2.6

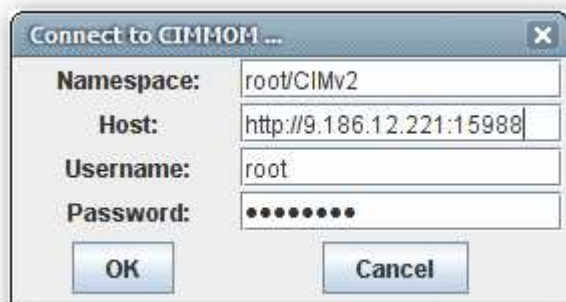
Save to: “CIMOMMonitor\lib”

Notes: sblimCIMClient library is required in our tool, and it must be placed under “CIMOMMonitor\lib\” folder, without it, our tool can’t run correctly.

3. Operations in this tool

3.1 Login

Here is the first menu you can see when you execute this tool,



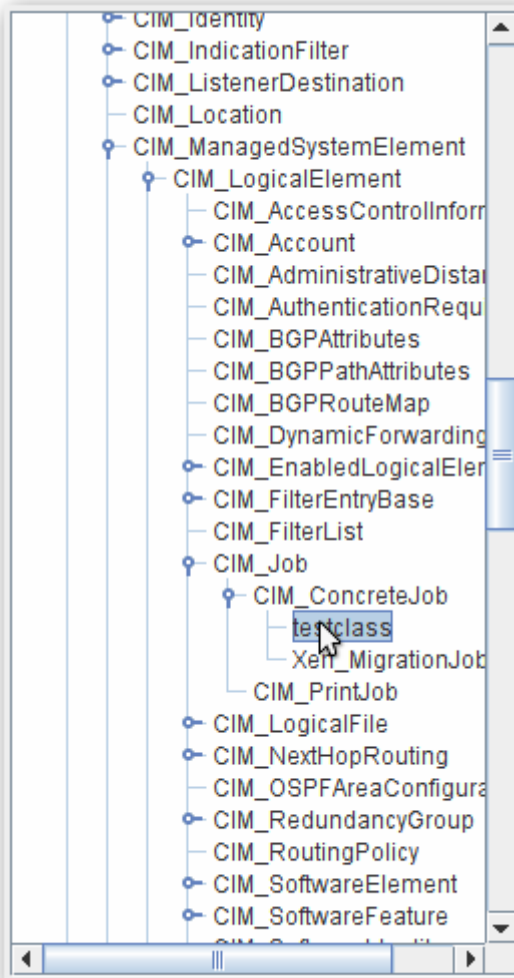
Click “OK” after inputting the required host address and some relation information, the tool will connect the target CIMOM.

3.2 Enumerate



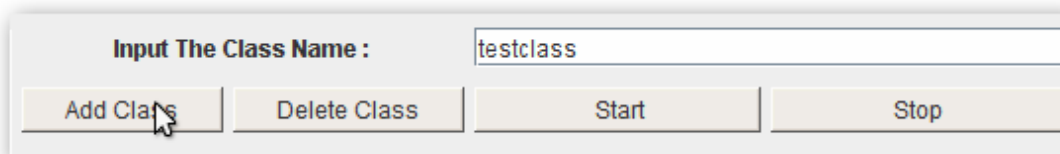
This dialogue showing enumerating the classes in CIMOM means the tool has connected to the CIMOM successfully. It will let user wait for a moment for its digging out all the class names from the CIMOM.

3.3 Class exploring



The tool shows the tree structure of class in one namespace, user can select whatever one class which is wanted to be monitored.

3.4 Add classes



After selecting the class in tree structure or just typing the class name in the text field, please click “Add Class”, the class will be added into the monitor pool.

3.5 Delete classes

Input The Class Name :

The Monitored Class Name
testclass
CIM_ConcreteJob
CIM_AuthenticationRequirement
CIM_BGPPathAttributes
CIM_RoutingPolicy

Similar like adding class, user can selecting the class name from the monitor pool or just type the class name which user would like to remove, and then please click “Delete Class”, the object class will be removed from the monitor pool and will not be monitored.

3.6 Start monitoring

The screenshot shows a software interface for monitoring classes. At the top, there is a text input field labeled "Input The Class Name :" containing the text "testclass". Below this input field are four buttons: "Add Class", "Delete Class", "Start", and "Stop". A mouse cursor is clicking on the "Start" button. Below the buttons is a table titled "The Monitored Class Name". The table has one header row and five data rows. The data rows contain the following class names: "testclass", "CIM_ConcreteJob", "CIM_AuthenticationRequirement", "CIM_BGPPPathAttributes", and "CIM_RoutingPolicy". Below the table is a section titled "The Detail Results:" which contains a large text area with the text "Start to monitor the class". At the bottom of the interface are two buttons: "Save" and "Clear".

The Monitored Class Name
testclass
CIM_ConcreteJob
CIM_AuthenticationRequirement
CIM_BGPPPathAttributes
CIM_RoutingPolicy

The Detail Results:

Start to monitor the class

After selecting the class, please click “Start”, the tool will start to monitor the selected class in the monitor pool.

3.7 Monitoring results

The Monitored Class Name
testclass
CIM_ConcreteJob
CIM_AuthenticationRequirement
CIM_BGPPathAttributes
CIM_RoutingPolicy

The Detail Results:
Start to monitor the class
Class : testclass : The Instance : <root/ibmsd:testclass.InstanceID="2332"> has been added
Class : CIM_ConcreteJob : The Instance : <root/ibmsd:testclass.InstanceID="2332"> has been added
Class : testclass : The Instance : <root/ibmsd:testclass.InstanceID="2332"> has been deleted
Class : CIM_ConcreteJob : The Instance : <root/ibmsd:testclass.InstanceID="2332"> has been deleted

Save Clear

During the monitor time, if any difference occurred on these classes, the tool will “see” these changes and show the detail event.

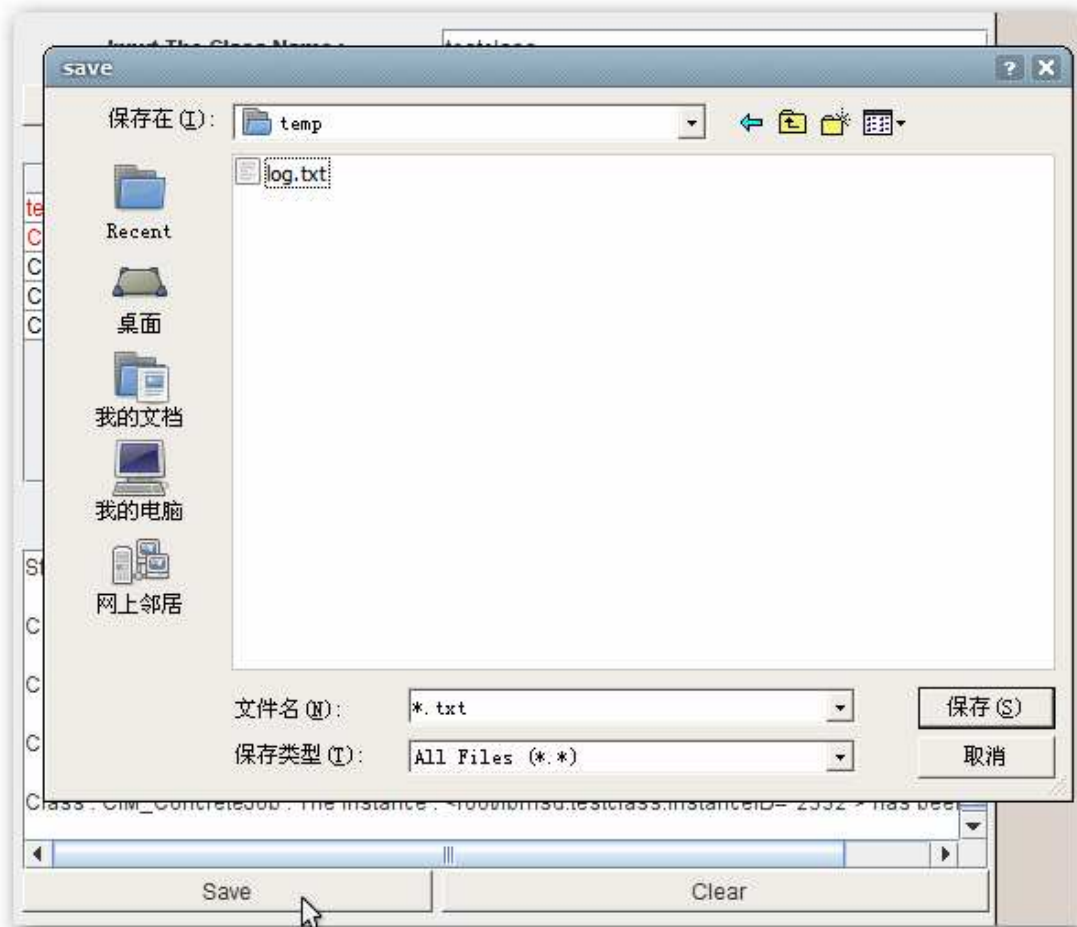
3.8 Stop monitoring

The screenshot shows a software interface for monitoring classes. At the top, there is a label "Input The Class Name :" followed by a text box containing "testclass". Below this are four buttons: "Add Class", "Delete Class", "Start", and "Stop". A mouse cursor is pointing at the "Stop" button. Below the buttons is a table with the heading "The Monitored Class Name". The table contains five rows of class names: "testclass", "CIM_ConcreteJob", "CIM_AuthenticationRequirement", "CIM_BGPPathAttributes", and "CIM_RoutingPolicy". The first two rows are highlighted in red.

The Monitored Class Name
testclass
CIM_ConcreteJob
CIM_AuthenticationRequirement
CIM_BGPPathAttributes
CIM_RoutingPolicy

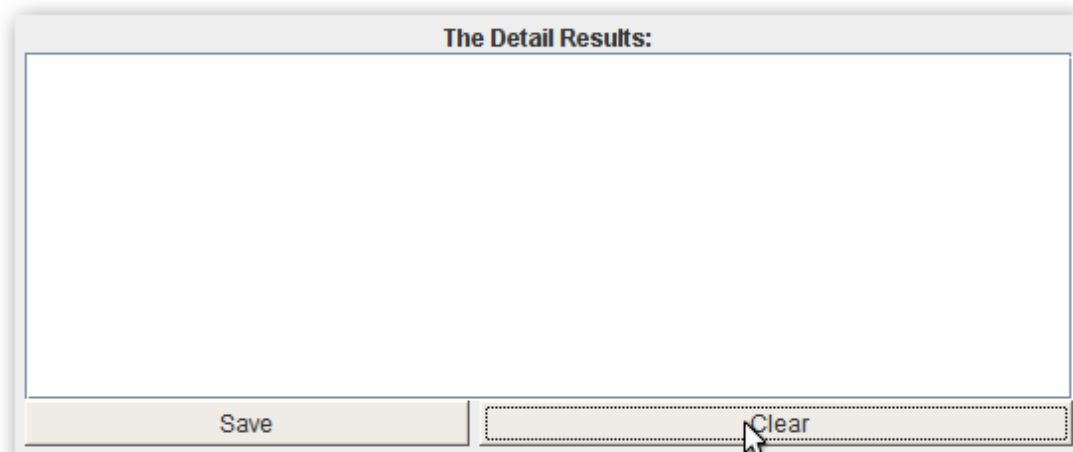
Click “Stop ” to stop the monitor operation.

3.9 Save log



Click “Save ” to save the detail event on the disk.

3.10 Clear log



After saving the log information, user can click “Clear” to clear all the expired information from

text field and be ready for next monitor operation.

4. Common problems and answers

4.1 Can't execute the tool

Solution: Make sure JRE installed properly and environment variables set correctly.

4.2 Can't connect to CIMOM

Solution: Make sure SBLIM CIM Client for Java installed. You can download it from <http://sblim.wiki.sourceforge.net/CimClient>. If you still fail to connect to the CIMOM, please check your network settings and status of the CIMOM.

4.3 Can't enumerate all CIM classes

Solution: Check your network settings and status of the CIMOM.