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Bensikin User Manual

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# Introduction

This document is an end-user guide to using the Bensikin application, and a brief developer-oriented presentation of the application’s architecture.

# Application’s context: Contexts and Snapshots.

A snapshot is, as said in the name, a “picture” of a list of equipment’s “settings” (*more precisely of their Tango attributes value*s) taken at a precise instant.

A snapshot is based on a context, which is a group of Tango devices and their attributes that must be part of the snapshots. A context is described by meta-data (author, description, etc.), so that users know which context is used what for.

A typical use case of a snapshot is to memorize a particular configuration of a set of equipment’s, to be able in the future to reset them to the values of this snapshot (*for example, reposition all Insertion devices to their parking position after a beam loss*).

# Application’s description and goals

## Application’s goals

Bensikin allows the user to define contexts and take snapshots. Snapshots can be saved as files and modified.

Bensikin is ready for multi-user use, which has for consequence the need to define accounts. An account is a way to map a user with a working directory. An important consequence of this is that **2 different users must not use the same working directory**, or you may encounter application misbehaviors. An account has a name and a path to a working directory.

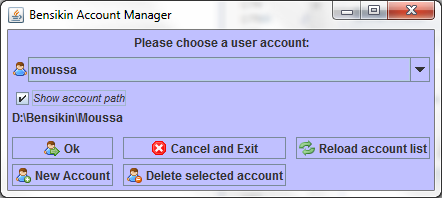
Bensikin is thus naturally divided (both in functionalities and display) in three parts:

* The account part, which is an introduction to the rest of the application
* The context part
* The snapshot part

## A first look to Bensikin

The Bensikin Account Manager is here to manage accounts, which means:

* Creating a new account
* Deleting an existing account
* Launching application with an account chosen in a list



Account Selection Combo Box

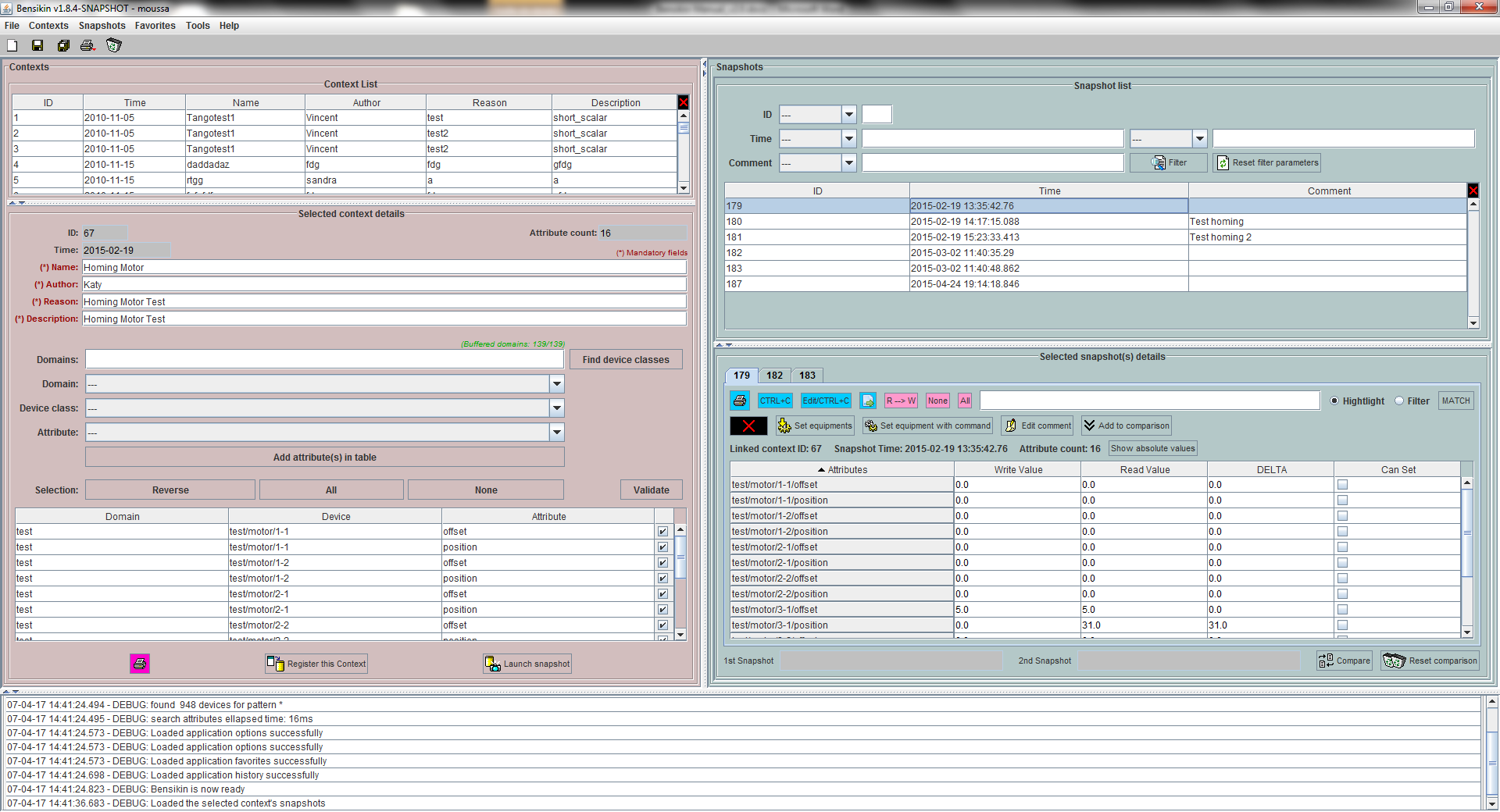
Figure 1: Bensikin Account Manager

The Context Control Panel is where user can manage contexts, which means creating, loading and modifying contexts, and launching snapshots based on the defined contexts.

The Snapshot Control Panel is where user can manage snapshots, which means saving snapshots in files, loading snapshots from database and files, temporary modify snapshots attributes values and set equipment with defined snapshots (with or without modifying snapshots) or a subpart of them.

The application’s logs panel displays the application information and error messages (like database interaction, encountered problems, etc.)

The Menu and the Tool bar are for actions shortcuts and application’s options.



***Snapshot Control panel***

***Context Control panel***

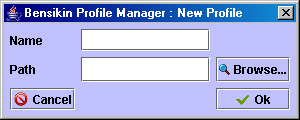
***Menu and Tool bar***

***Application’s Logs panel***

Figure 2: Bensikin main panel

# Account Manager

The Figure 1: Bensikin Account Manager presents the account Manager Interface, on application start. With this manager, you can create a new account, or delete or use an existing one.

To quit the application, simply click on  or  button.

Existing accounts are listed in the account Selection Combo Box, which you can reload by clicking on  button (if you think that someone could have modified it by creating a new account or deleting an existing one, for example).

## Creating a new account

To create a new account, click on the button C:\Users\thiamm\Desktop\Screenshot de Bensikin\Capture14.PNG (at the bottom left of the panel). A new dialog will appear, as following.

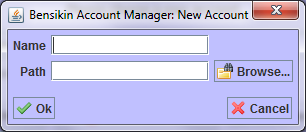
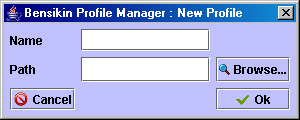


Figure 3: Creating a new account

In this new dialog, you will have to enter the name of your new account and the path of the application working directory for this account. If you prefer, you can browse for the path by clicking on the C:\Users\thiamm\Desktop\Screenshot de Bensikin\Capture17.PNG button. Then, a classic browsing dialog will be displayed, in which you can choose the directory. When both fields (“Name” and “Path”) are fulfilled, click on  button to validate your new account, which will be automatically added in the list of existing accounts. If you click on  or  button, you go back to the first dialog, as presented in Figure 1: Bensikin Account Manager, and nothing is done.

## Deleting an existing Account

To delete an existing account, first select the account in the account selection combo box, as following:

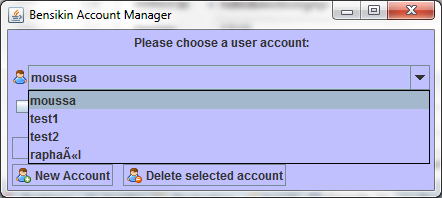
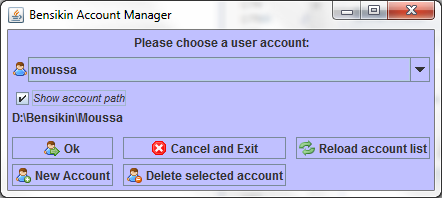


Figure 4: Account selection

When the account is selected, click on  button to delete it. If you do it, you won’t be able to use this account any more (and no other user either), because the account is definitely removed from list. The account deletion doesn’t involve the corresponding directory (neither its content) deletion.

If you want to see your account path, you can check “Show account path”.

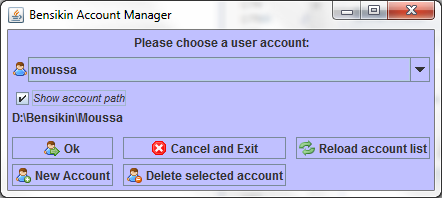
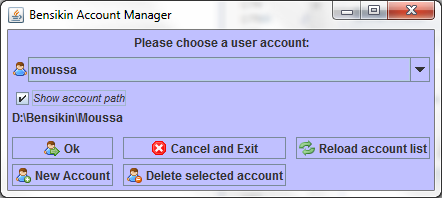


Figure 5: Show account path

## Launching application with an existing account

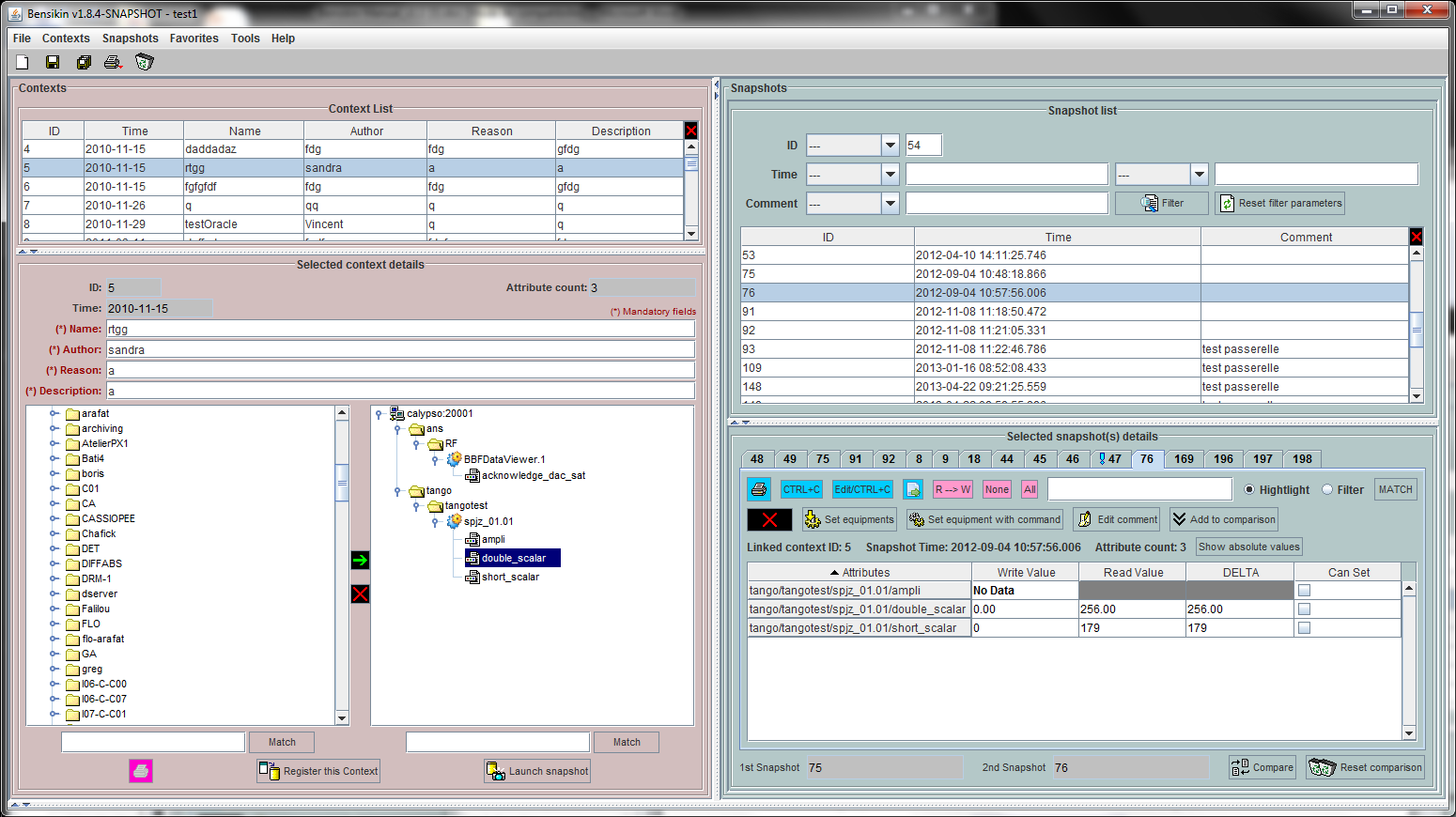
To launch application with an existing account, first select the account in the account selection combo box, as presented in Figure 4: Account selection.

Then, click on button, and you will reach the application main panel configured with this account (the account name is displayed in frame title).

# Contexts Management

This section describes how to control contexts with Bensikin. A context is a list of attributes for which you can make a snapshot. A context has an ID and a creation date, both defined by the database. A context also has a name, an author, a reason and a description. The reason usually describes why the context was created (example: because of an incident or in order to set some equipment), whereas the description is here to have an idea of what kind of attributes you will find in this context.

Contexts are managed in the context control panel:



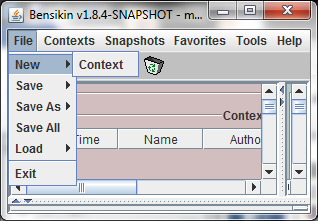
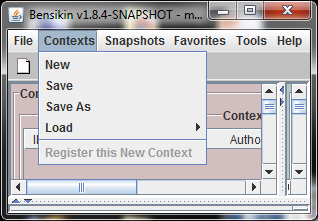
**Context List sub panel**

**Context Details sub panel**

Figure 6: Context control panel

## Creating a new context

To create a new context, click on the “new” icon in toolbar (New), or choose option to make a new context from “File” menu or “Contexts” menu:

You also are ready to make a new context at application first start or by clicking on the “reset” icon (Trash_-_Reset):

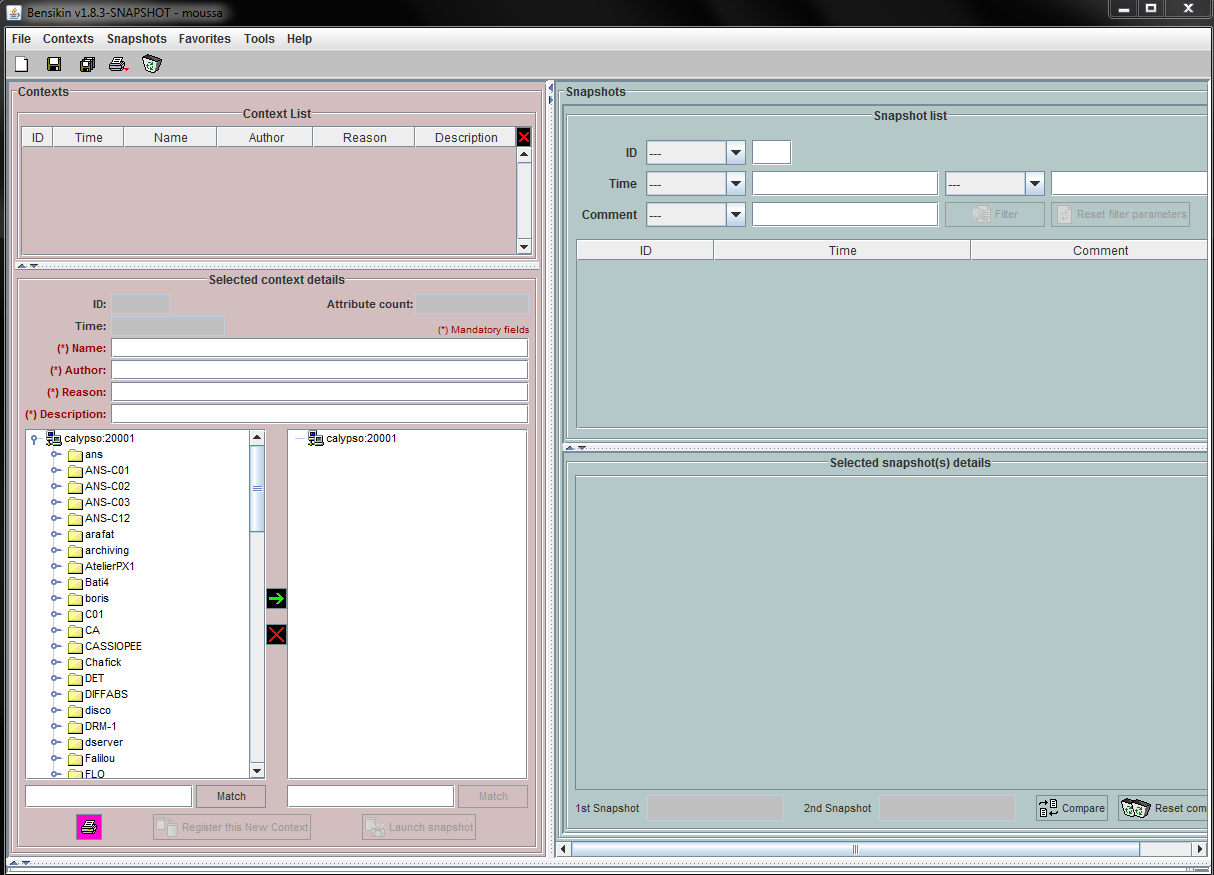
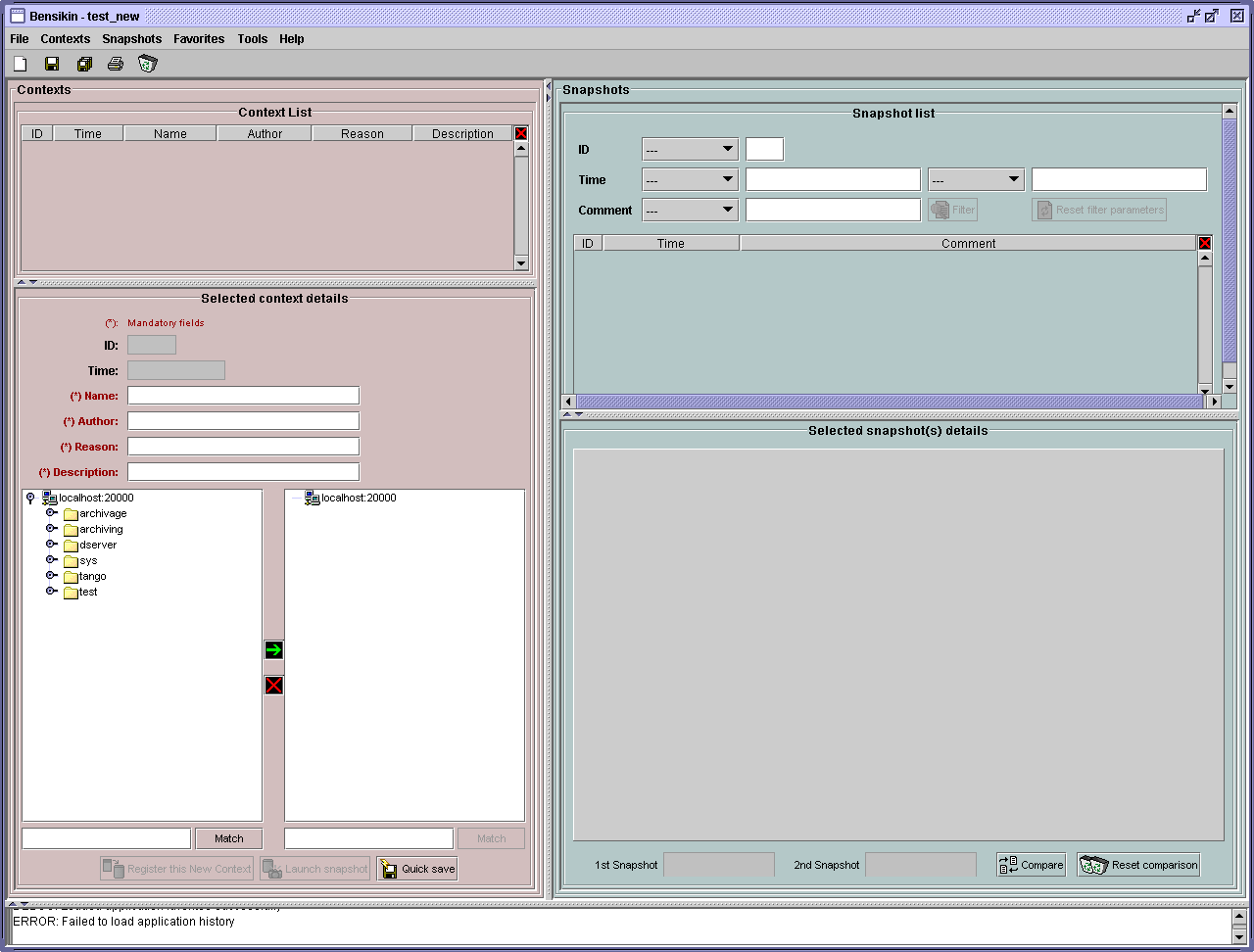


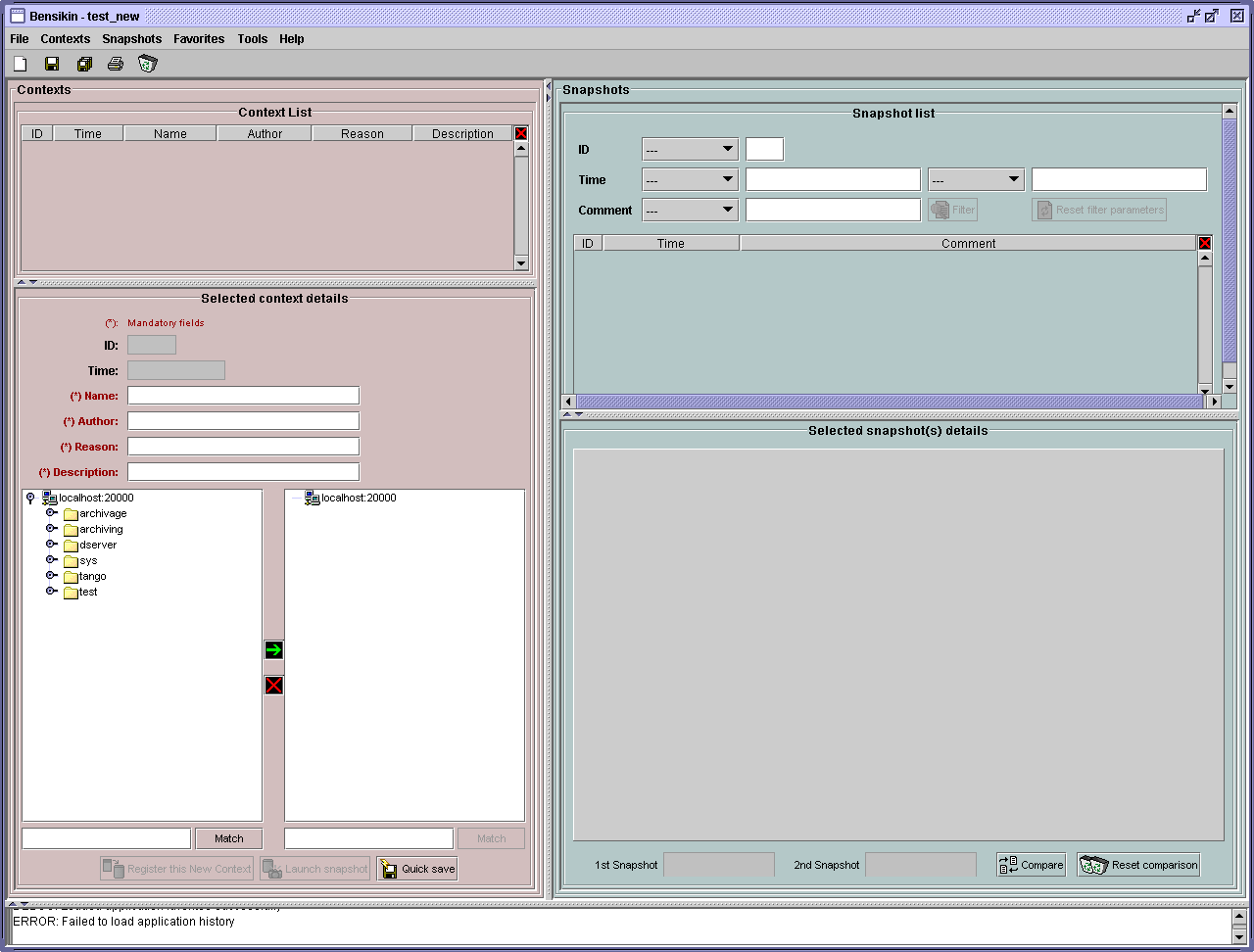
Figure 7: Application first start

The difference between the “reset” icon(Trash_-_Reset) and the “new” icon(New) is, that the “reset” icon will clear every panel, whereas the “new” icon will only clear the snapshot list and the Context Details sub panel.

### Classic way (tree)

The tree on the left side of the Context Details sub panel allows you to check for available attributes. The one on the right side represents your context attributes.

To add attributes in your context browse the left tree, select attributes (represented by the icon attribute ), and click on the arrow  to transfer them to the right tree.

To remove attributes from your context, select them in the right tree and click on the cross .

Finally, fill the context Meta data (Name, Author, Reason and Description) in the corresponding fields (Note that filling the fields activates the “register” button).

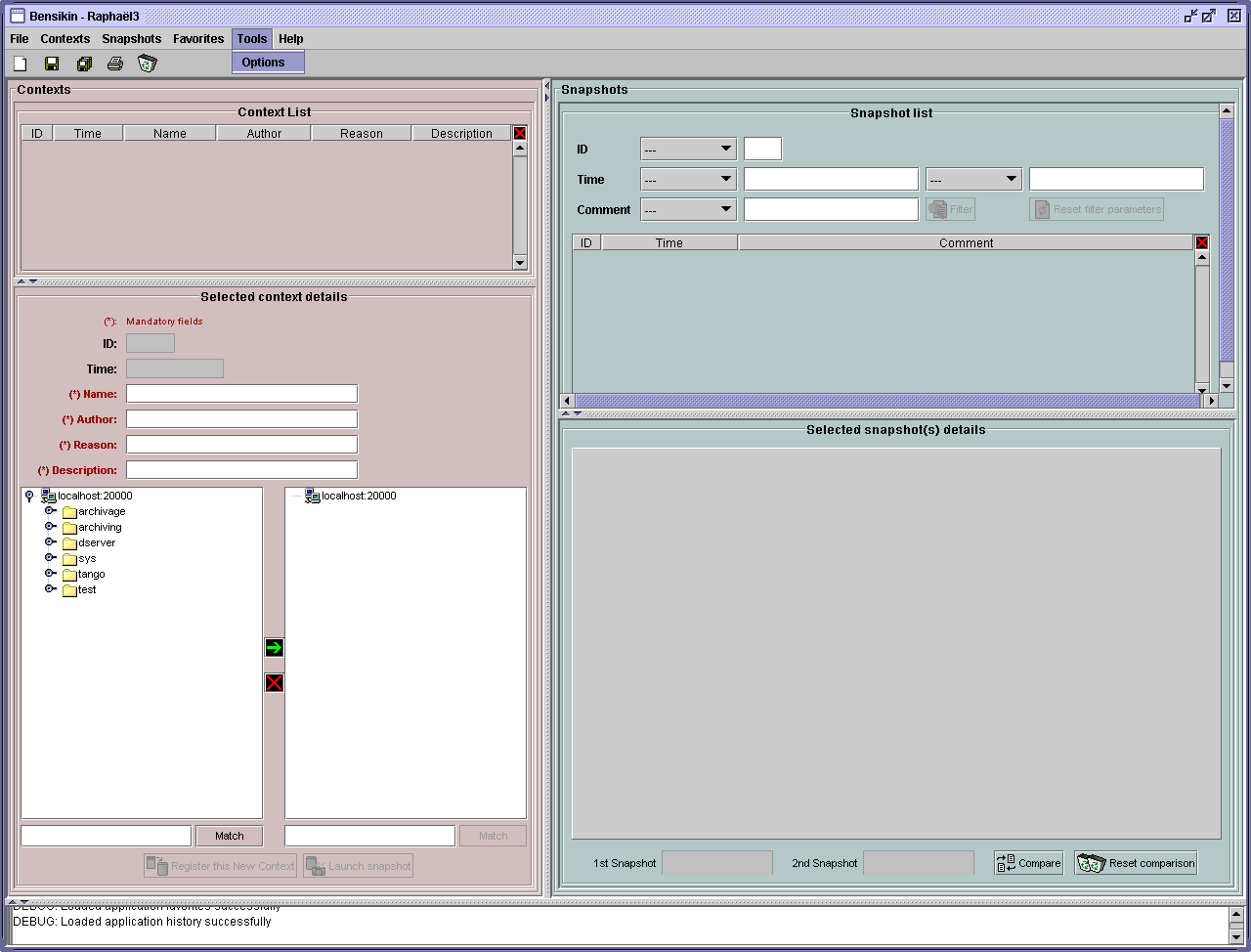
Then, you can save your context in database by clicking on the “register” button.

Doing so will deactivate the “register” button and activate the “launch snapshot” button.

You can save your context in a file using the “save” iconSave.

### Alternate way (table)

To select this alternate way, go to “tools” menu and select “options”

.

Then select the “context” tab and click on the “table” radio button.

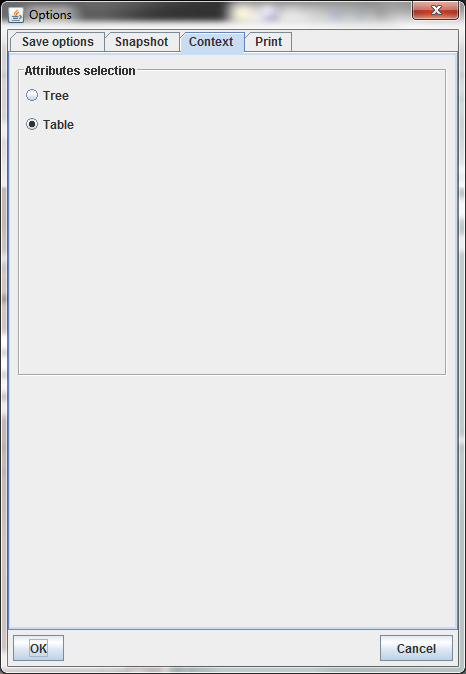
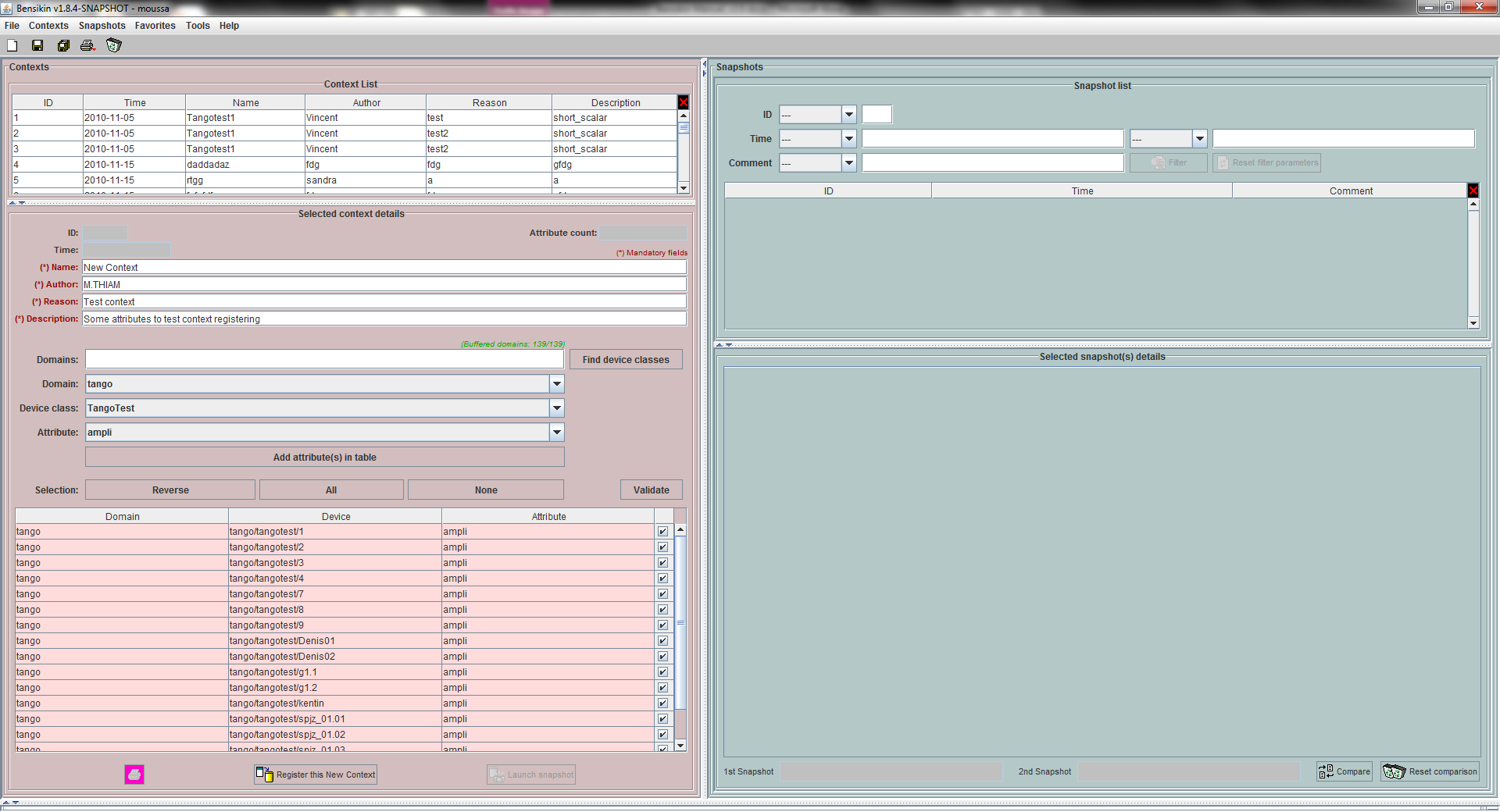


Figure 8: Option –context tab

Click on the “ok” button. The context panel now has the “table selection mode”.



***Line-level selection buttons***

***Attributes filtering box***

***List of Context attributes***

***(New attributes are light red)***

Figure 9: Bensikin with context table selection mode (new context)

* Attribute selection and automatic attributes adding:
  + Choose a Domain. This refreshes the list of possible Device classes for this Domain.
  + Choose a Device class. This refreshes the list of possible Attributes for this Domain and Device class.
  + Choose an Attribute and press OK :

All Attributes with the selected name ***AND*** belonging to any Device of the selected Class and Domain are added to the current Context’s list of attributes.

All new attributes are light red until the Context is registered.

* Line level sub-selection of loaded attributes:

Each attributes are initially checked, but this check can be removed by the user. When the user clicks on “validate”, all unchecked attributes will be removed from the current Context.

* + Click “All” to select all lines
  + Click “None” to select no lines
  + Highlight lines in the list (CTRL and SHIFT are usable), then click “Reverse highlighted” to reverse the checked/unchecked status of all highlighted lines.

As for the classic way, you will have to fill the Meta data fields and register your context in database by clicking on the “register” button 

* 1. MODIFYING AN EXISTING CONTEXT

As a matter of fact, you can’t really “modify” a context. What you can do is to create a new context with its information (attributes and Meta data) based on another one.

The very difference is in alternate mode, where former attributes are in white and new ones in light red:

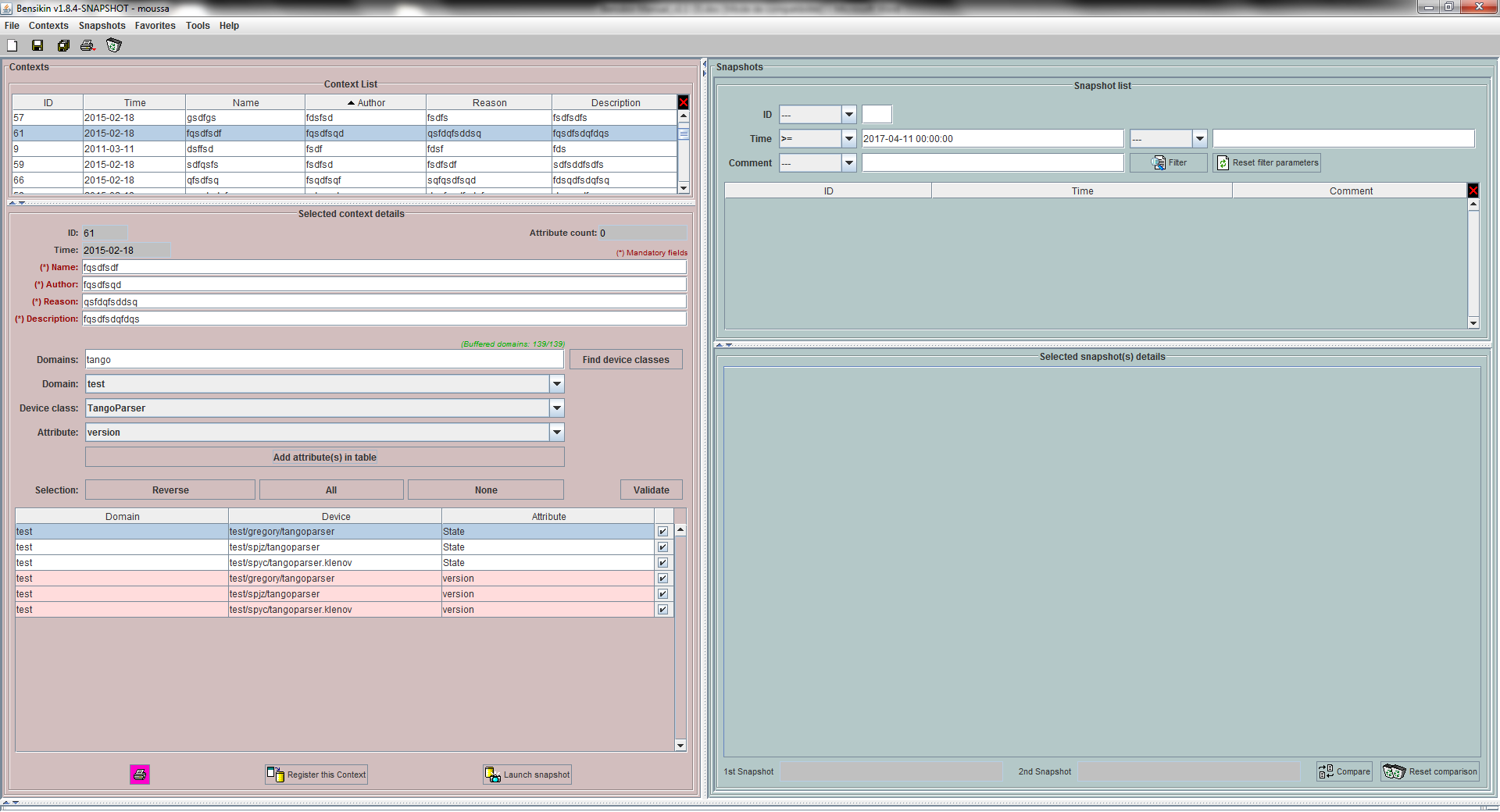


Figure 10: Bensikin with context table selection mode (modified context)

The “register” button changed a little too: its text is “Register this context” instead of “Register this new context”, as you can see on the figure above.

## Loading a context

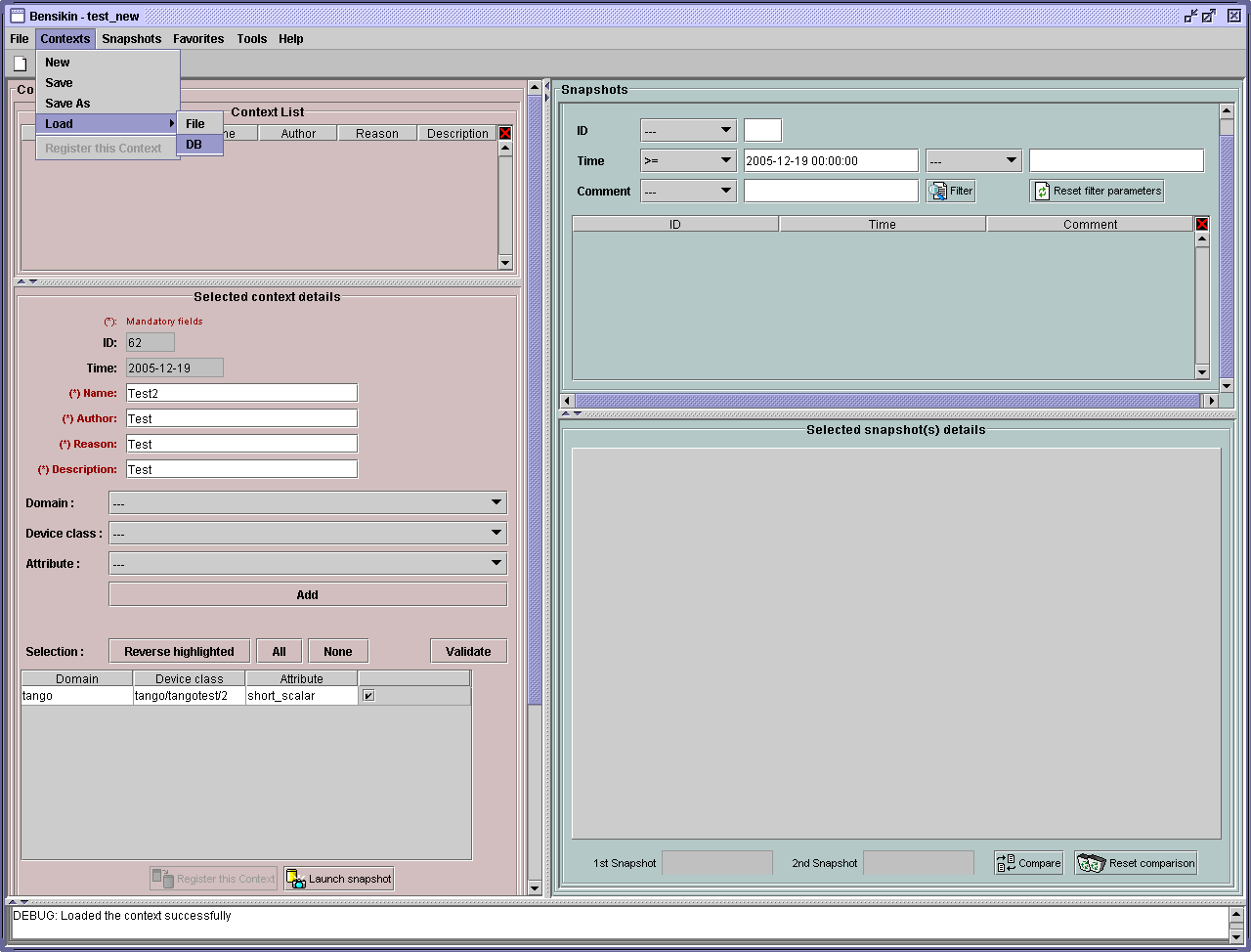
There are 2 ways to load a context:

* Load it from the database
* Load it from a file

In both cases, loading a context will apply a quick filter on the snapshot list, so you can see the snapshots about this context that have been created this day (the day when you load the context).

### Loading a context from database

In the “Contexts” menu, choose “load” then select “DB”:



A dialog will then appear to allow you to filter the list of contexts in database following different criteria:

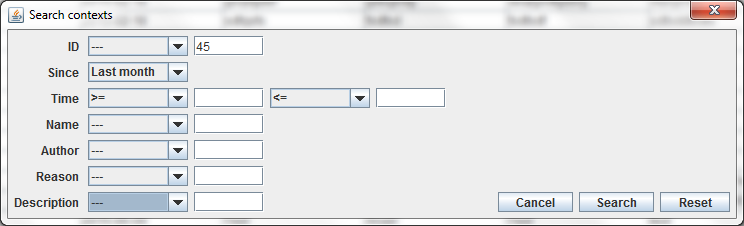
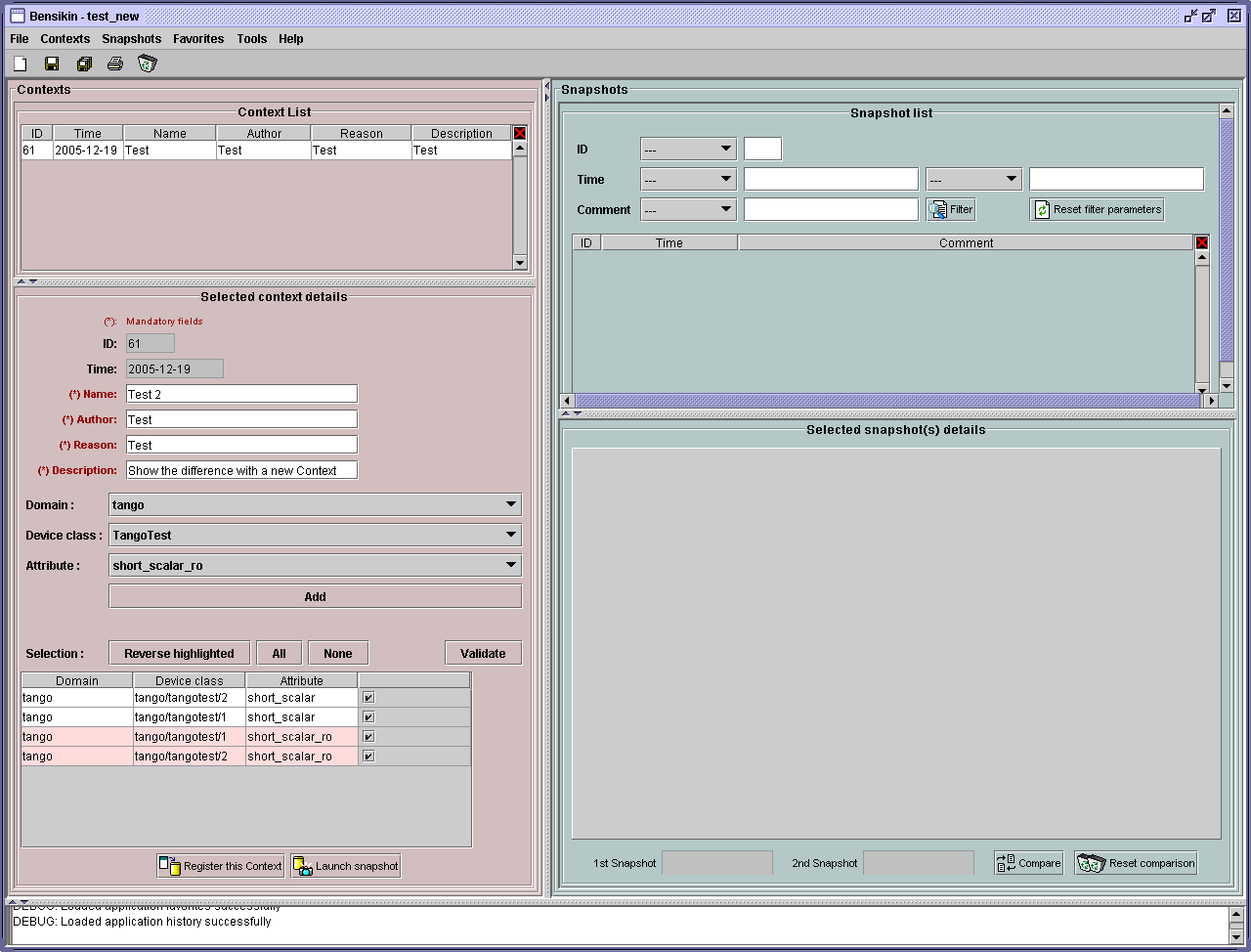


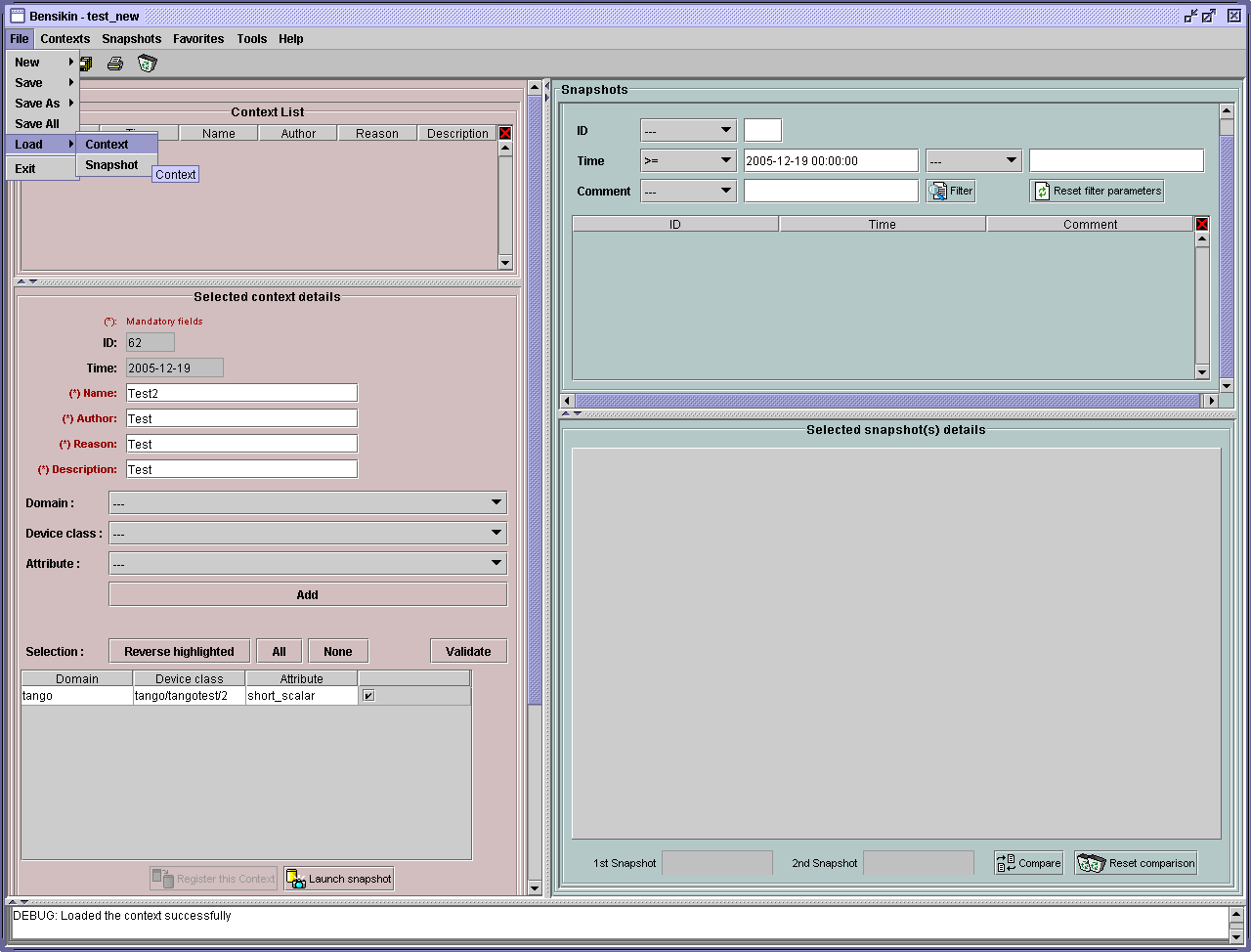
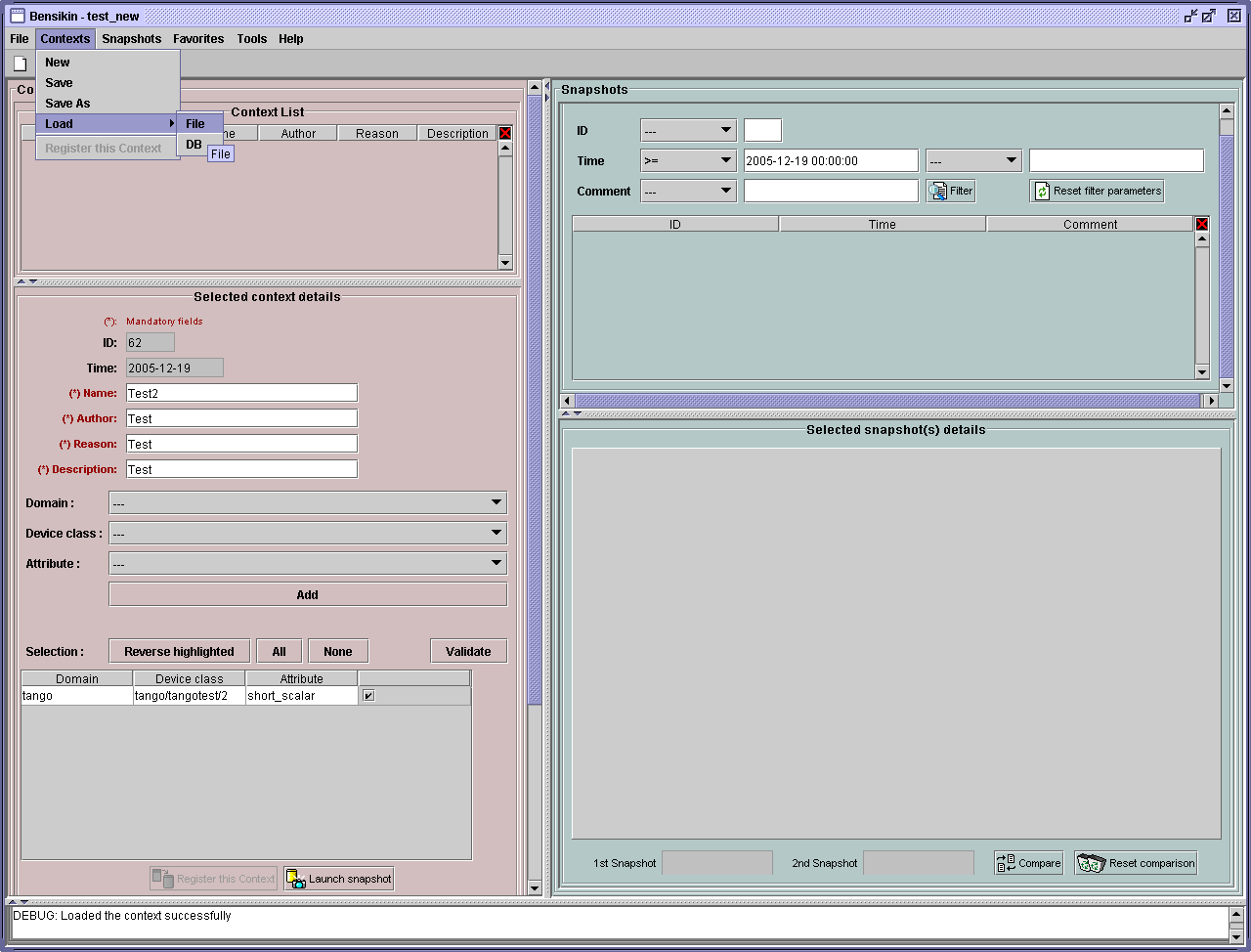
Figure 11: Data base Context filter dialog

Select no criterion to search for all contexts present in database. Click on the  button to apply the filter. The list of corresponding contexts will then appear in the Context List sub panel, as shown in Figure 6: Context control panel. Double click on a context in table to load it and see its details in the Context Details sub panel (See Figure 6: Context control panel).

If there are too many contexts in the list, you can remove some contexts from list (not from database) by selecting them in list and clicking on the cross on the top right corner of the list ().

### Loading a context from file

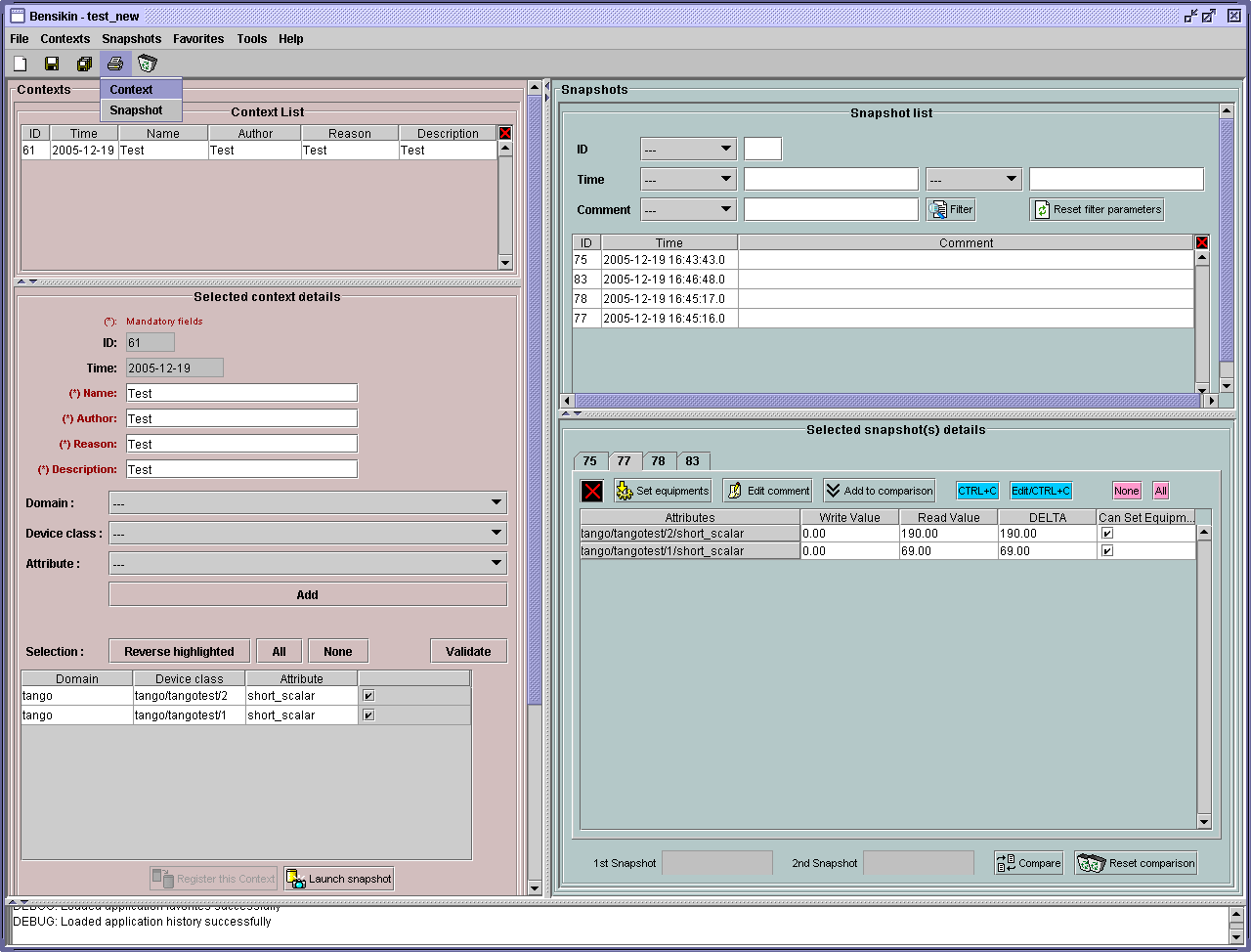
In the “Contexts” menu, choose “load” then select “File”, or in “File” menu choose “load” then select “Context”:

A classic file browser will appear. Search for your “.ctx” file and select it to load the corresponding context in the Context Details sub panel (See Figure 6: Context control panel).

## Printing a context

Once you have context ready, click on the “print” icon (Print) and select “context”:

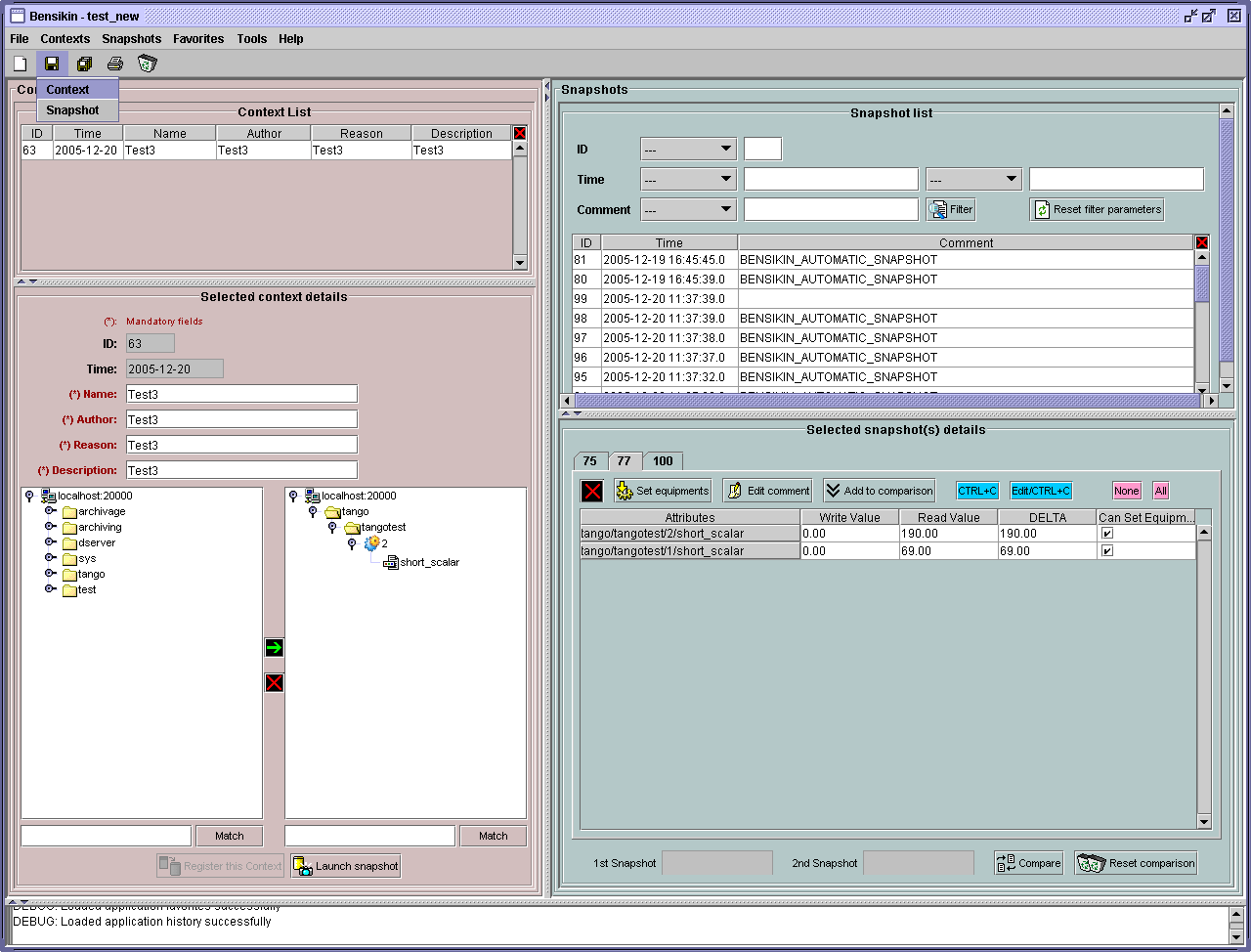


The classic print dialog will then appear. Validate your print configuration to print an xml representation of your context.

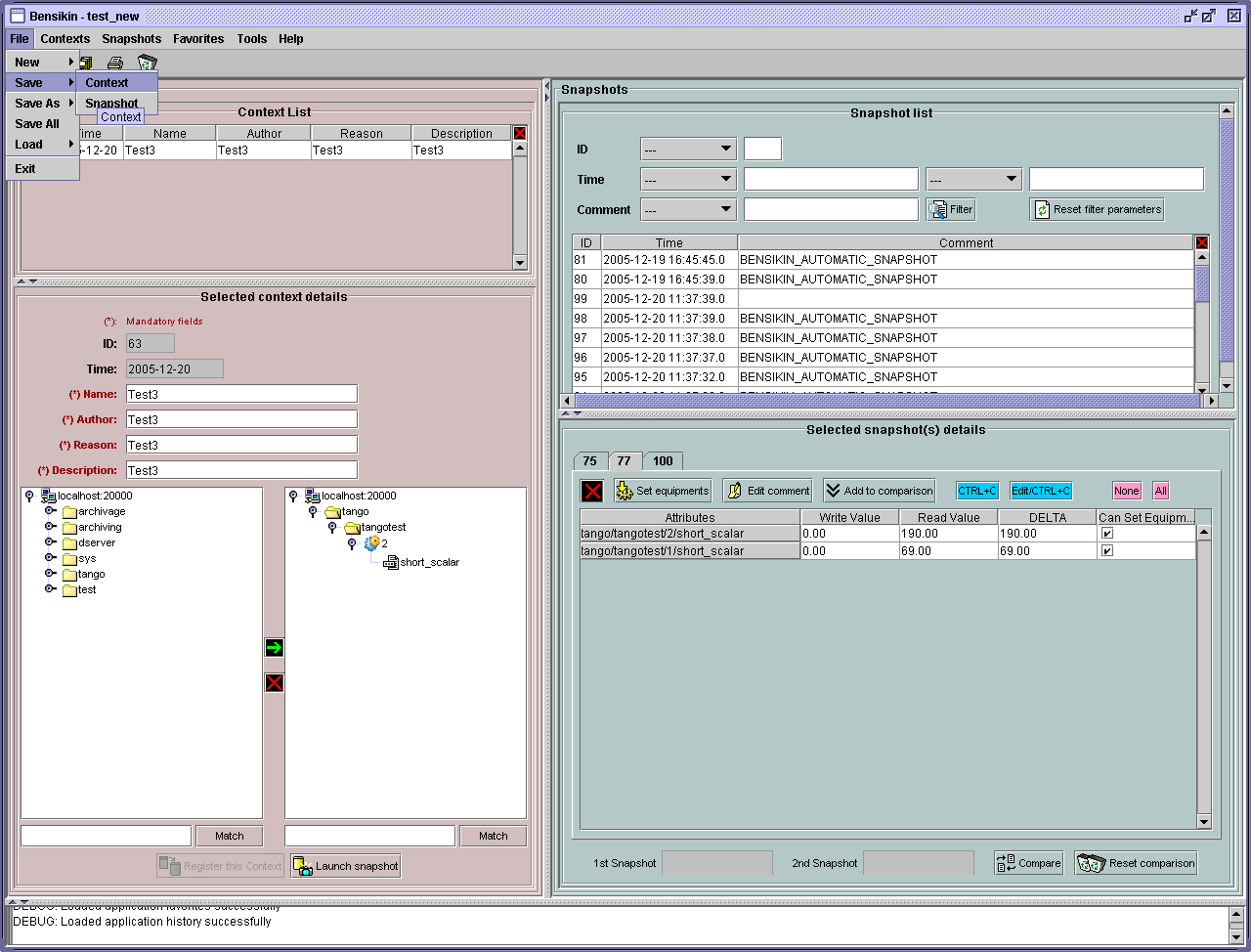
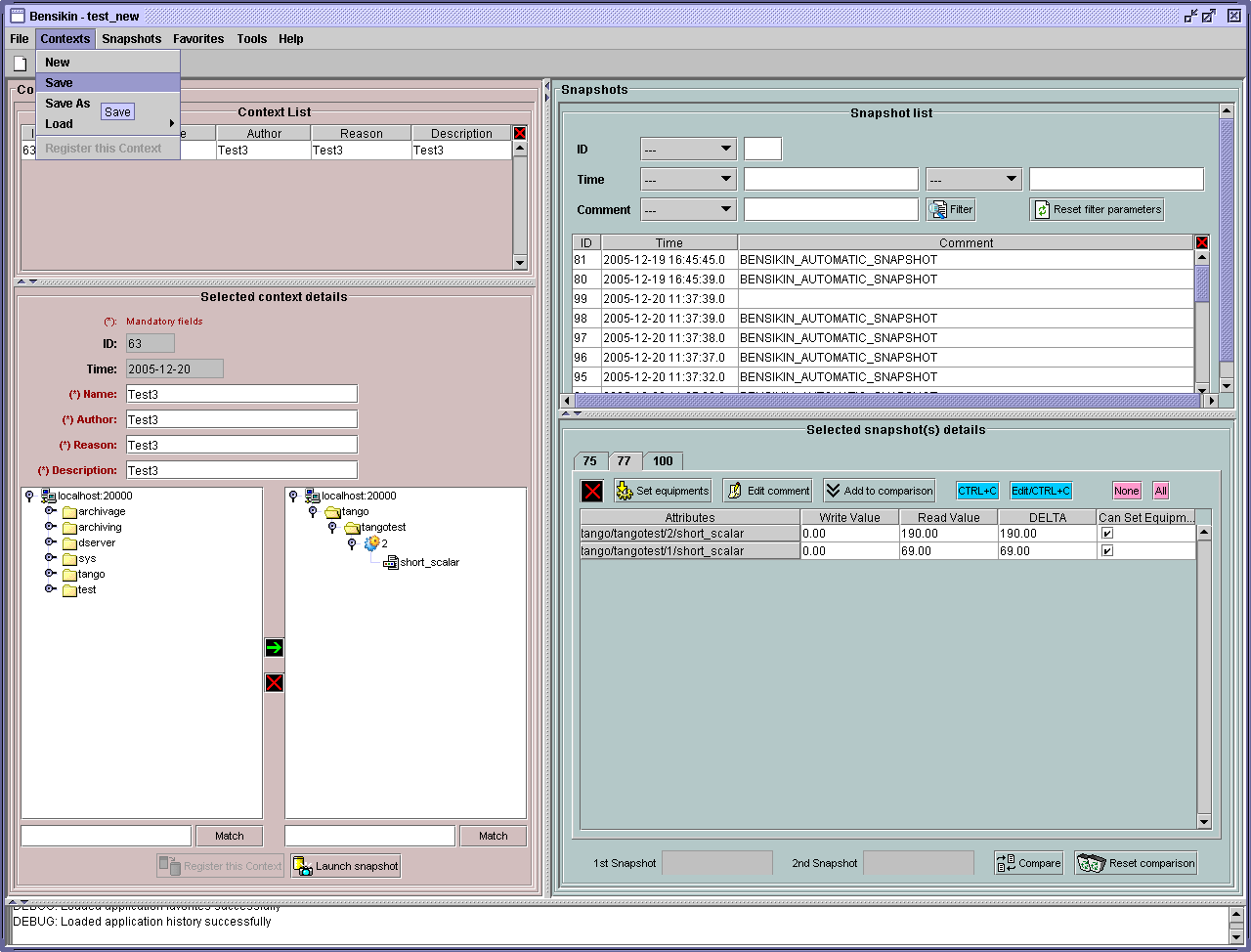
User can also print context by pressing the button 

## Saving a context

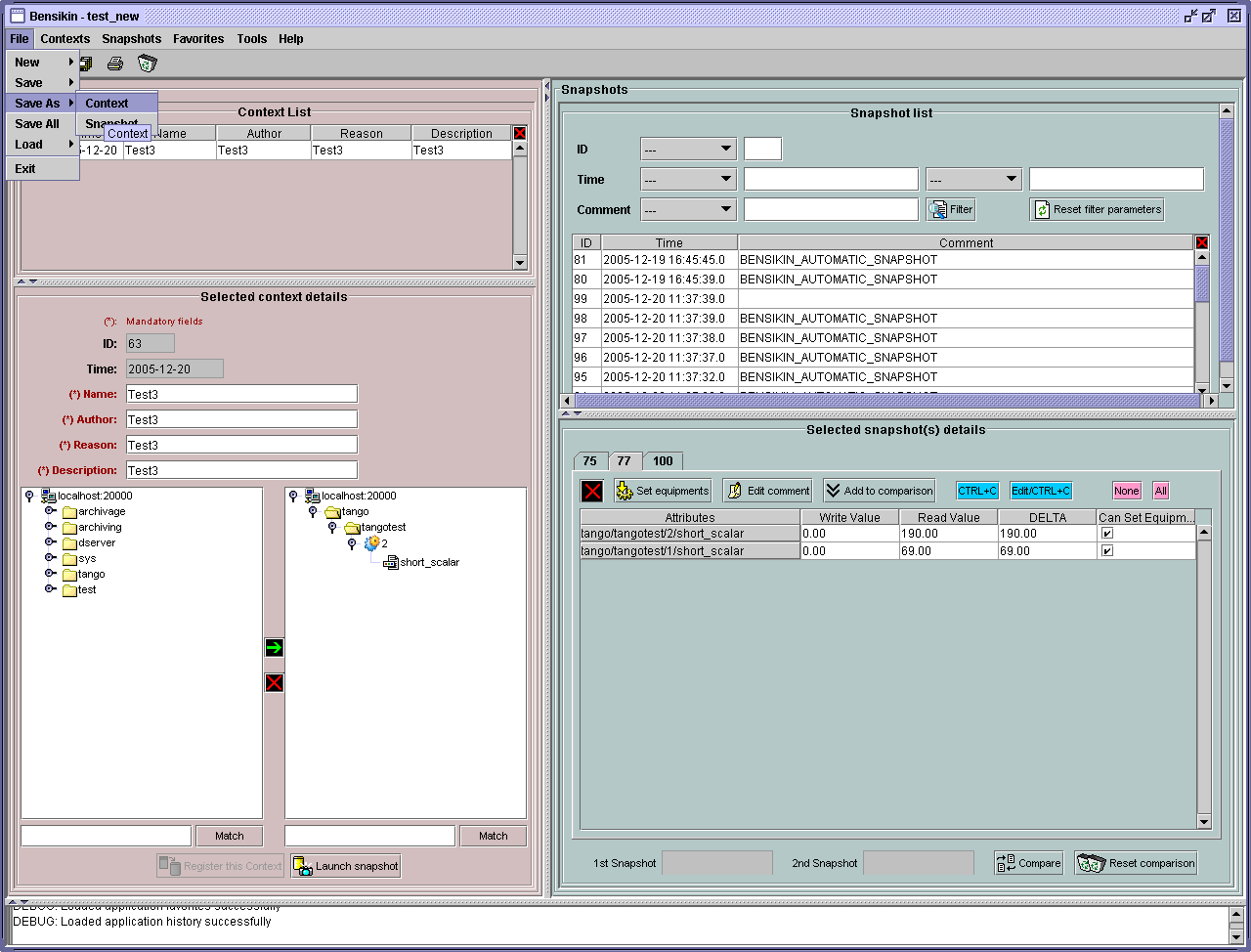
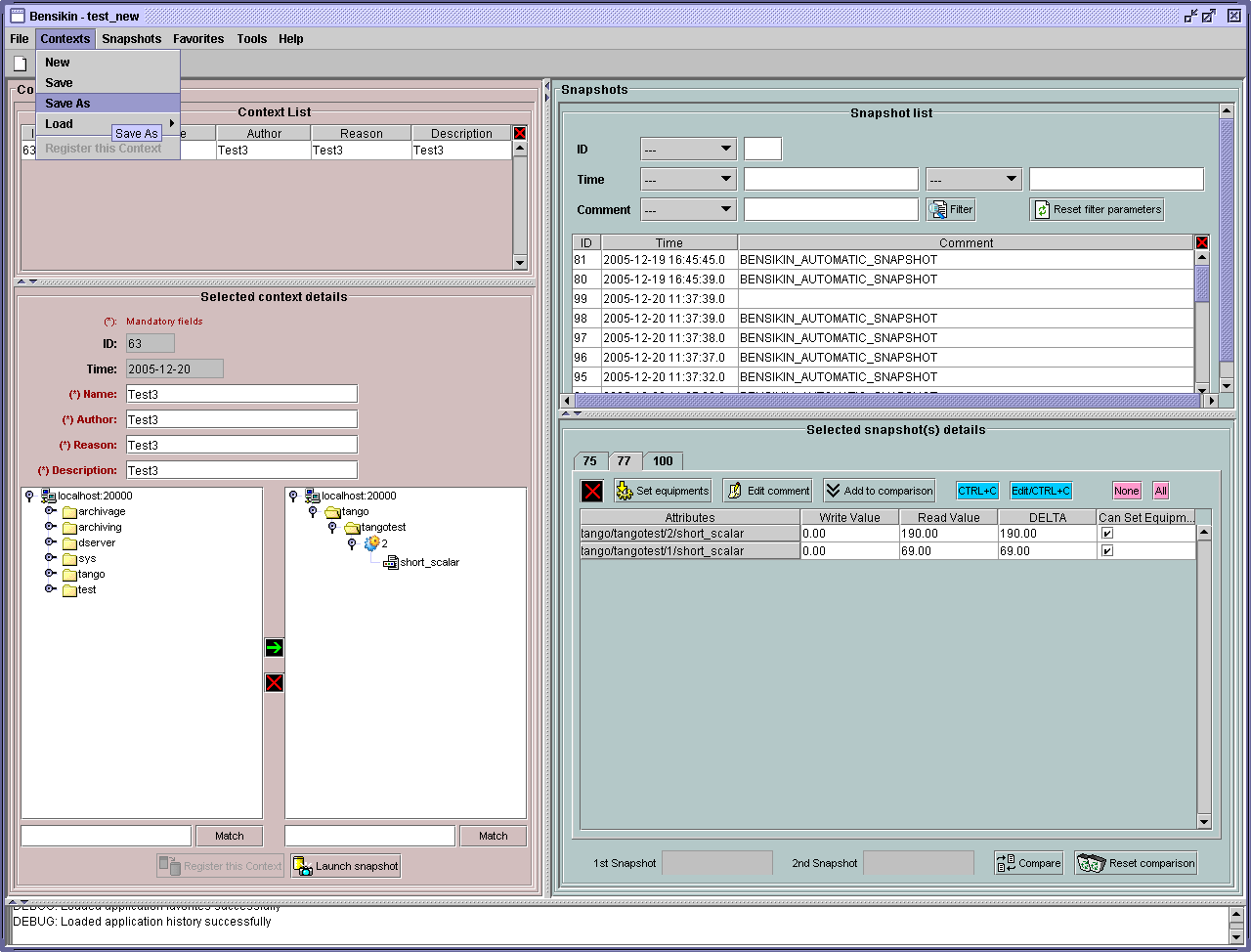
Once you have context ready, click on the “save” icon (Save) and select “context”:



You can also go to menu “Contexts” and click on “save”, or go to menu “File”, select “Save” and click on “Context”.

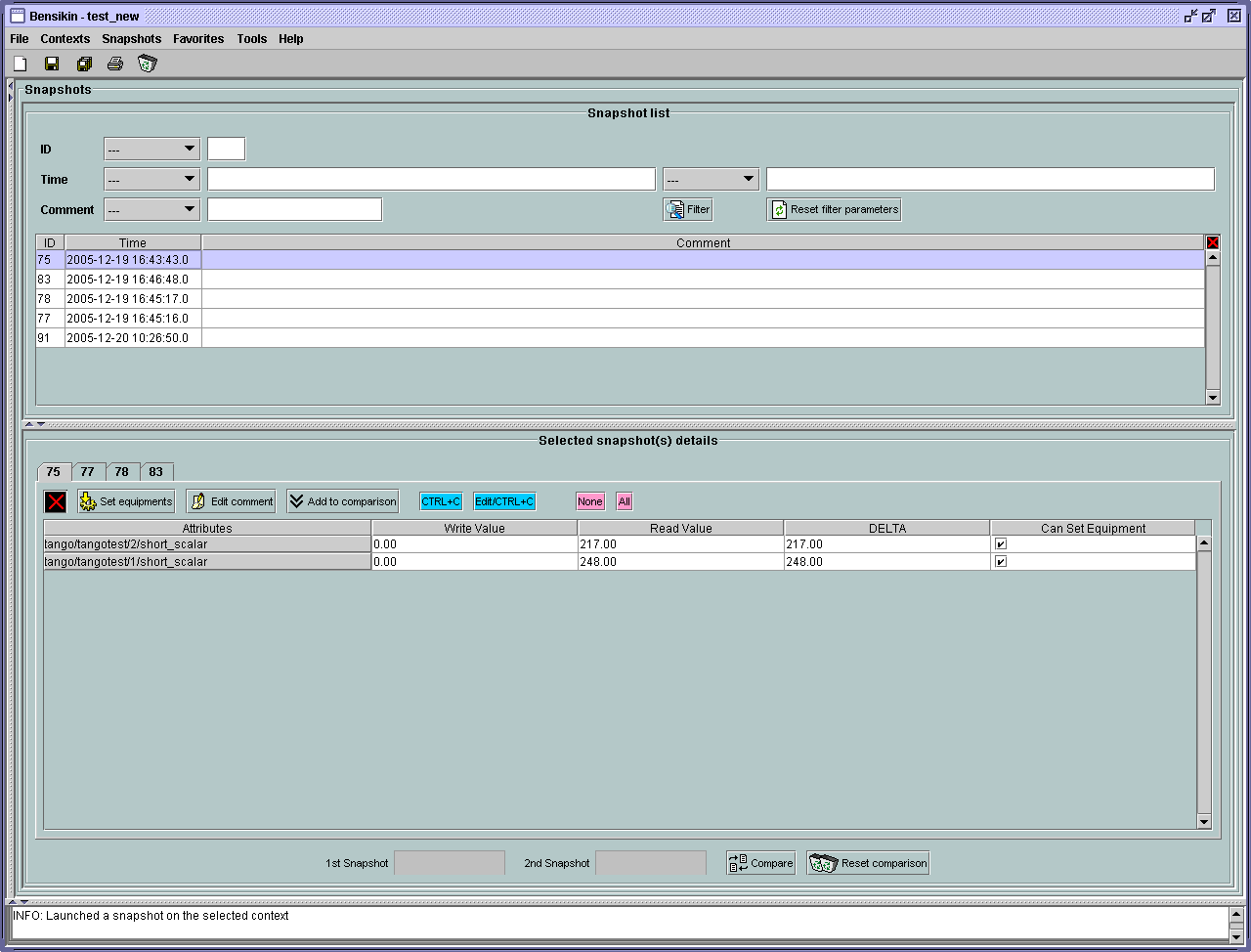
Then, the behavior is “Word-like”. This means that if this is the first time you save this context, you will see the classic file browser to choose where to save your context, with file name. However, else, it will automatically save in the corresponding file. If you want to save in another file, you have to go to “File” menu, select “Save As” and click on “Context” or go to “Contexts” menu and click on “Save As”

# Snapshot Management

This section describes how to control snapshots with Bensikin. A Snapshot is a view of your equipment at a precise date, view based on a context. A Snapshot has an ID, a creation date (Time), and a comment to describe it (which can be left empty).

Snapshots are managed in the snapshot control panel:

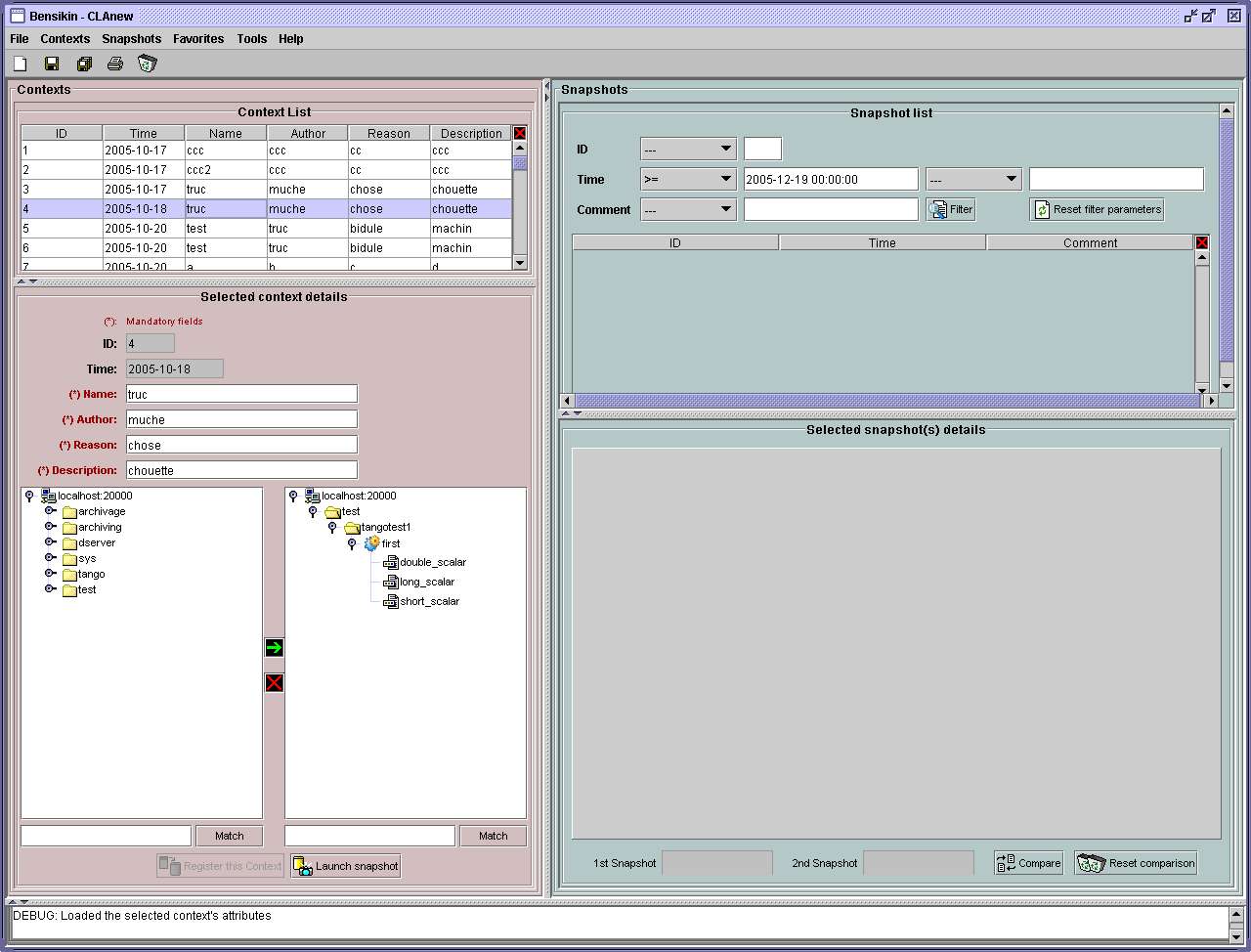


Snapshot Details sub panel

**Snaphot List sub panel**

Figure 12: Snapshot control panel

## Creating a new snapshot

To create a new snapshot, first select a valid context in the context control panel (see Figure 6: Context control panel). Then click on the button. The corresponding snapshot is added in the list of snapshots in the Snapshot List sub panel.

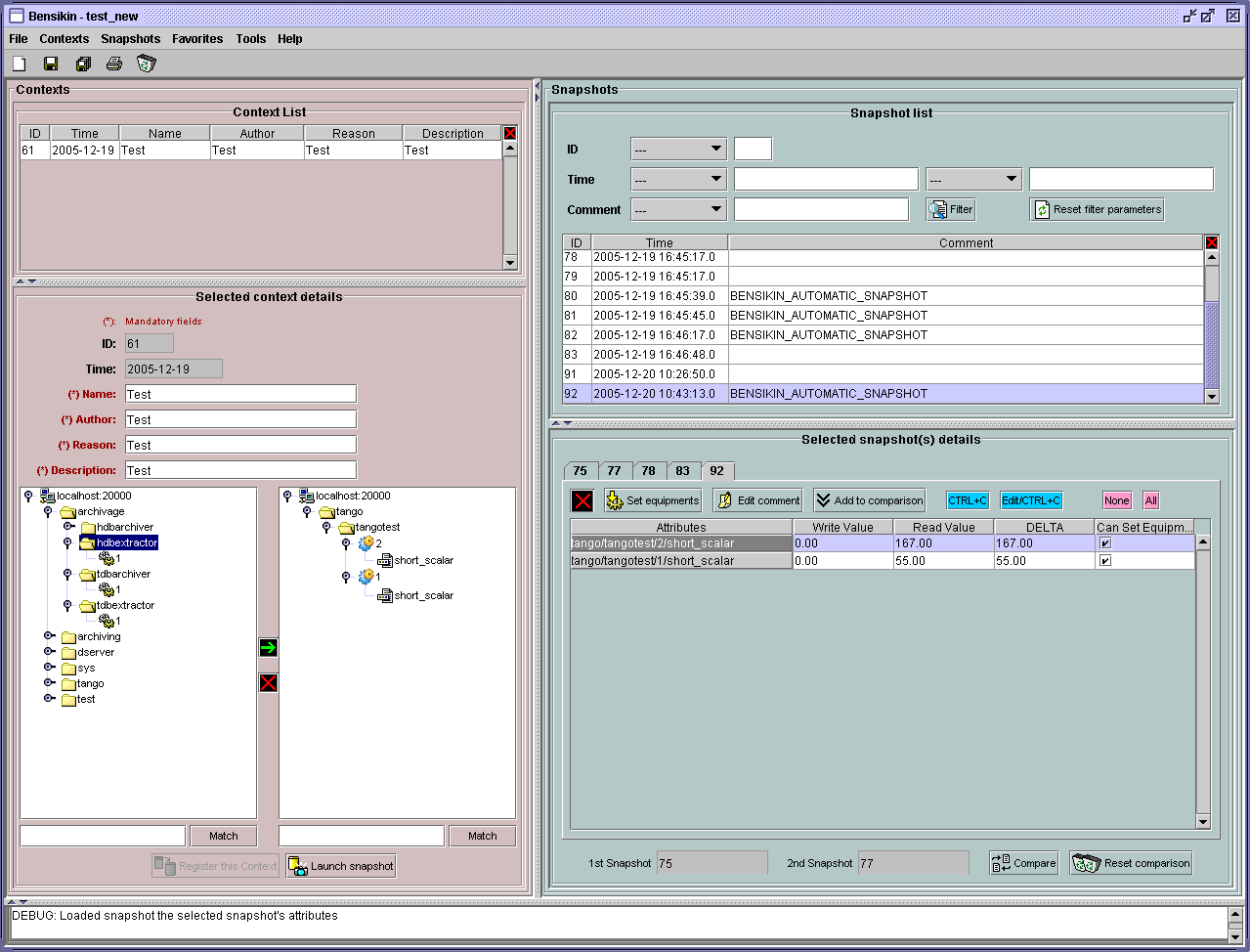
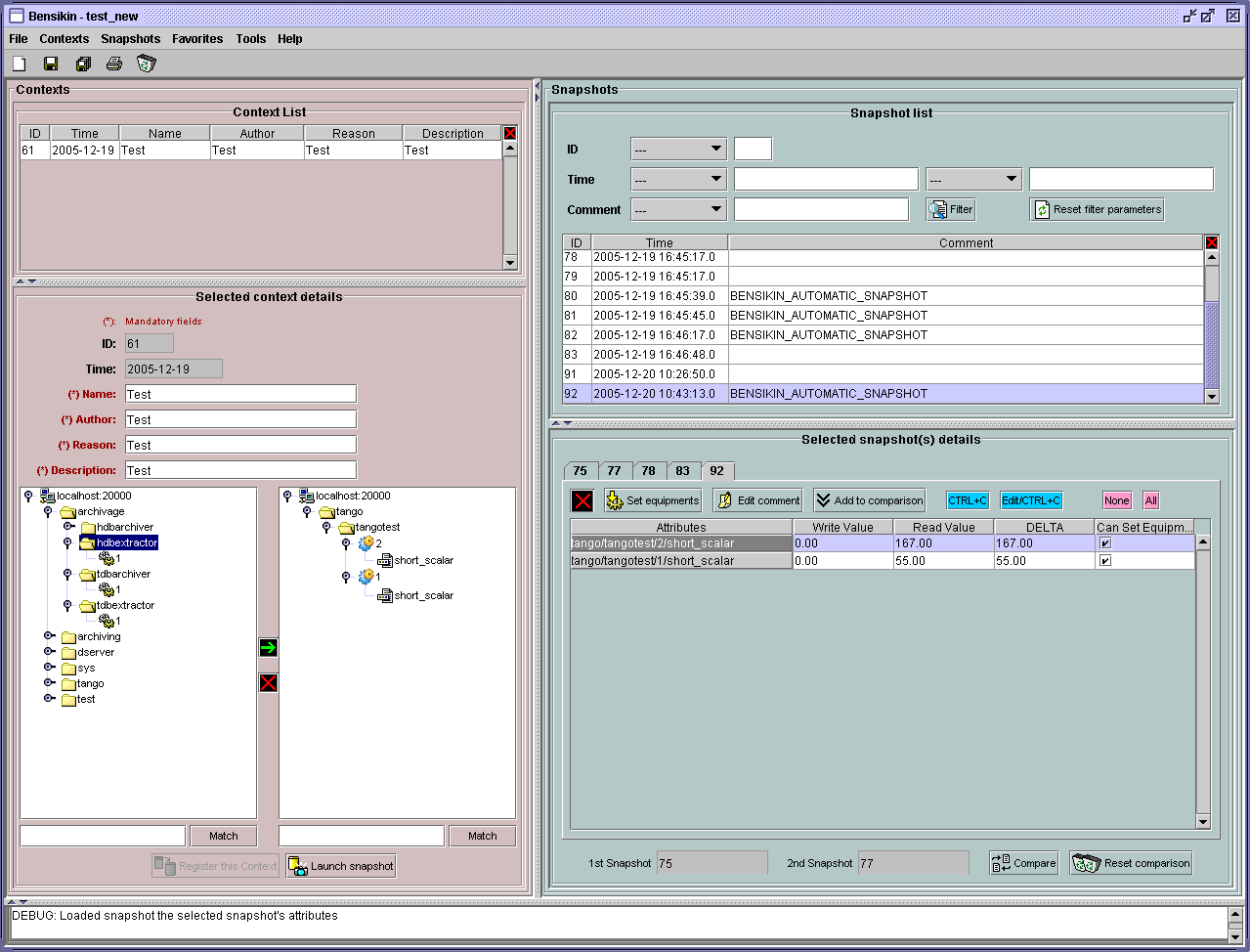
## Loading a snapshot

There are 2 ways to load a snapshot:

* Load it from the database
* Load it from a file

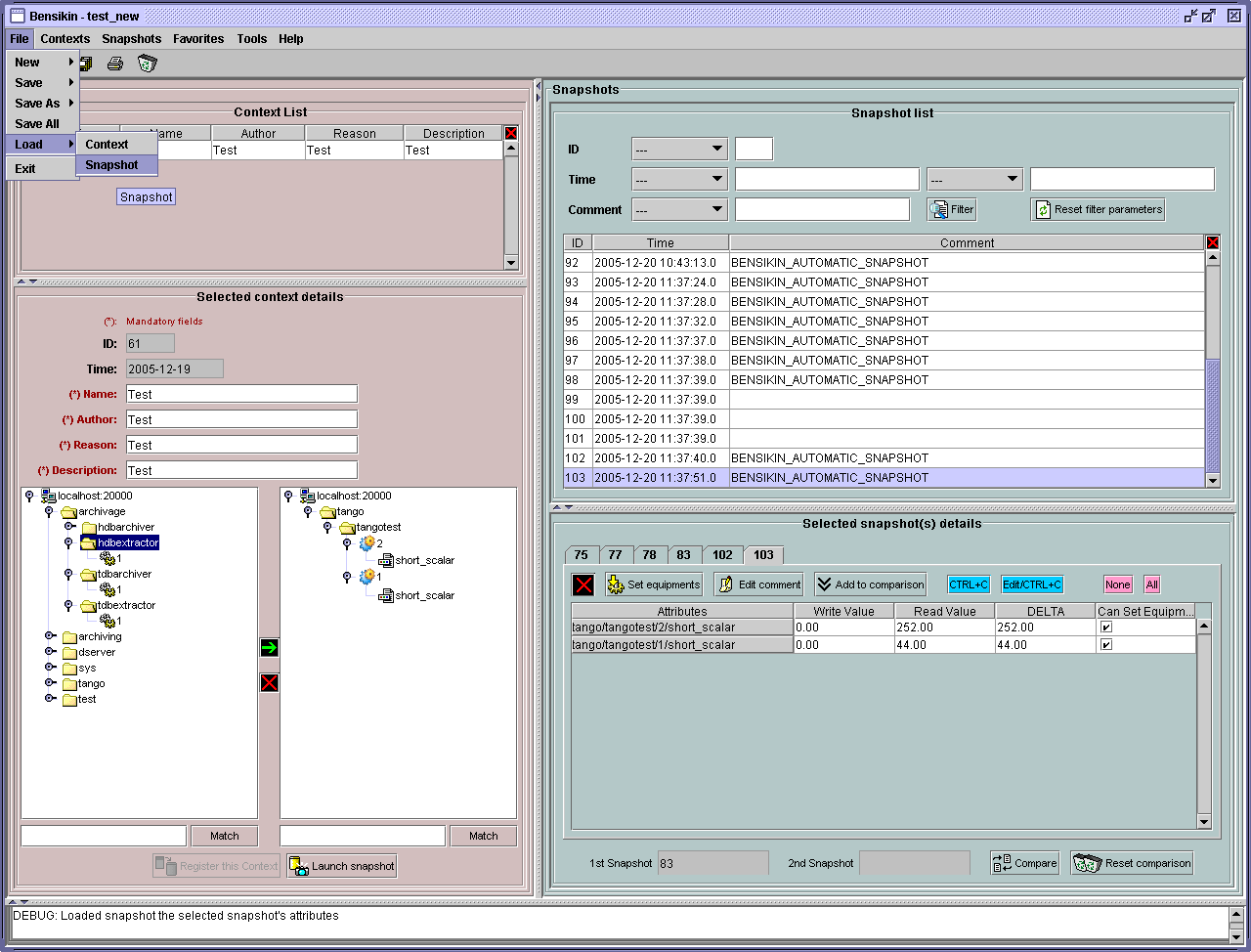
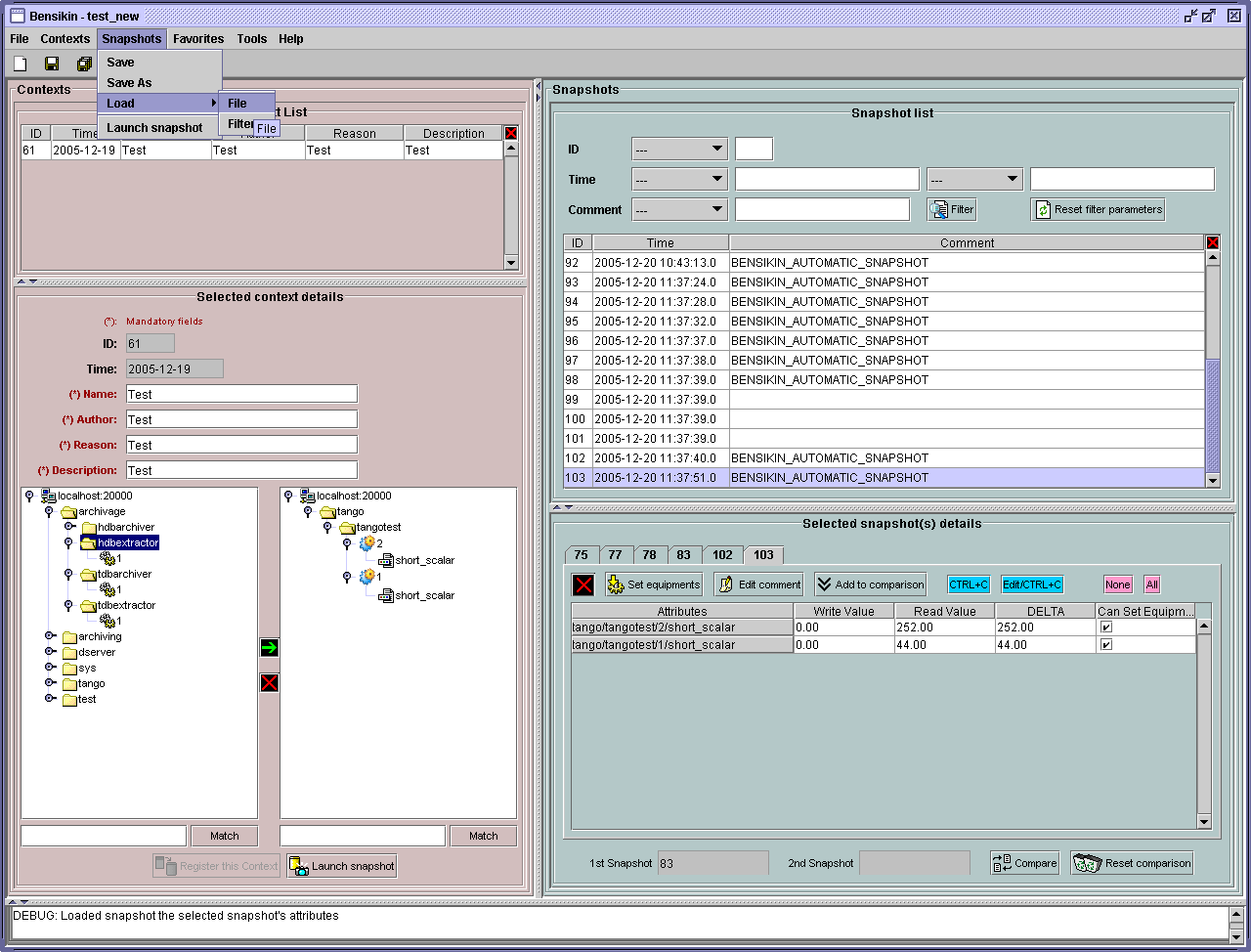
### Loading a snapshot from database

Loading a snapshot from database consists in adding this snapshot in the list of snapshots in the Snapshot List sub panel.

As you can see in Figure 12: Snapshot control panel, the Snapshot List sub panel allows you to filter snapshots from database to find the snapshot you want to load. However, have in mind that this filter is “context dependent”, which means that the snapshots which will appear in the list by clicking on the “filter” button () are the one that correspond to your filter criteria **AND** the selected context in the Context Control Panel. If the filter is cleared (which you can obtain by clicking on the button), you will search for all the snapshots in database that correspond to the selected context.

### Loading a snapshot from file

In the “Snapshots” menu, choose “load” then select “File”, or in “File” menu choose “load” then select “Snapshot”:

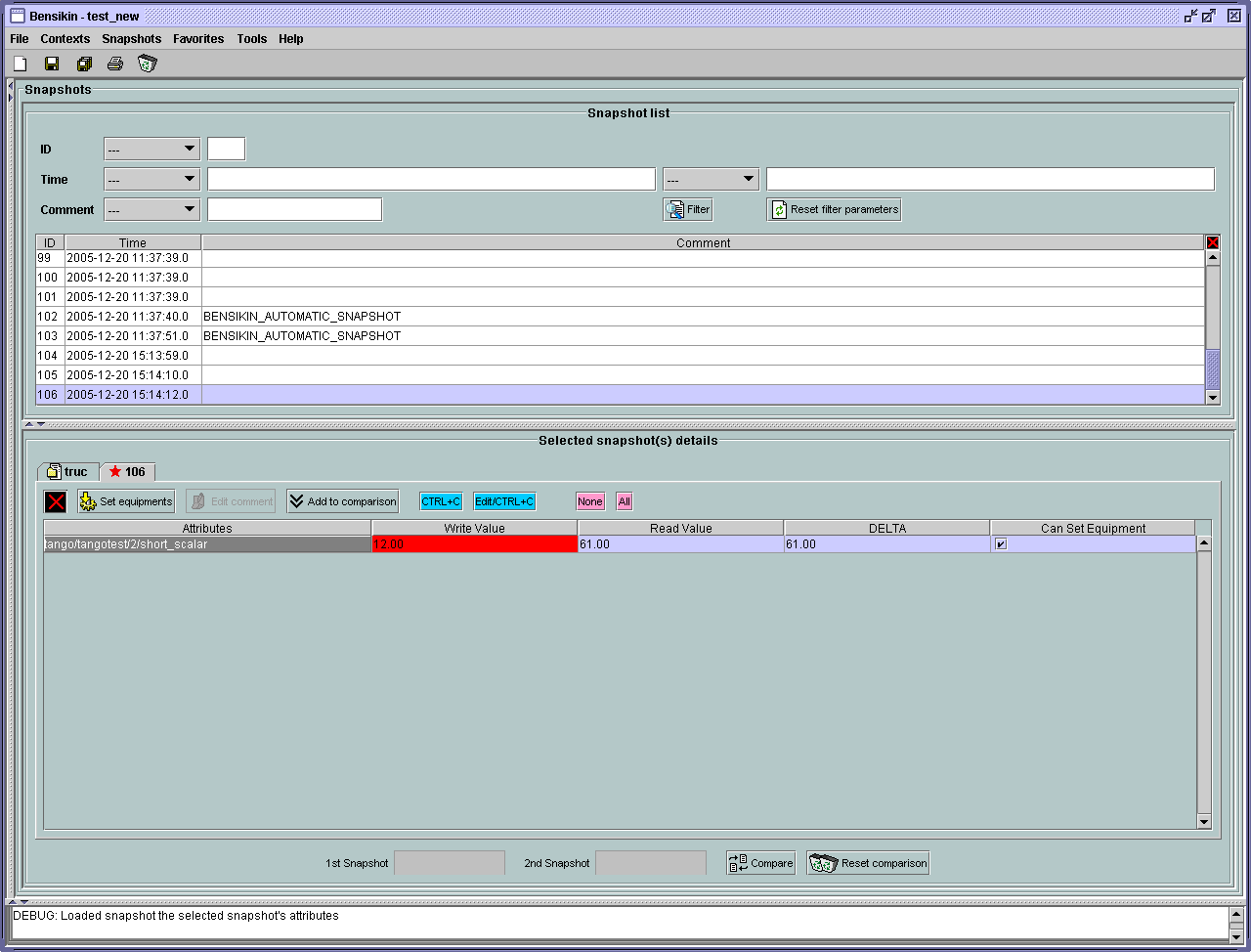
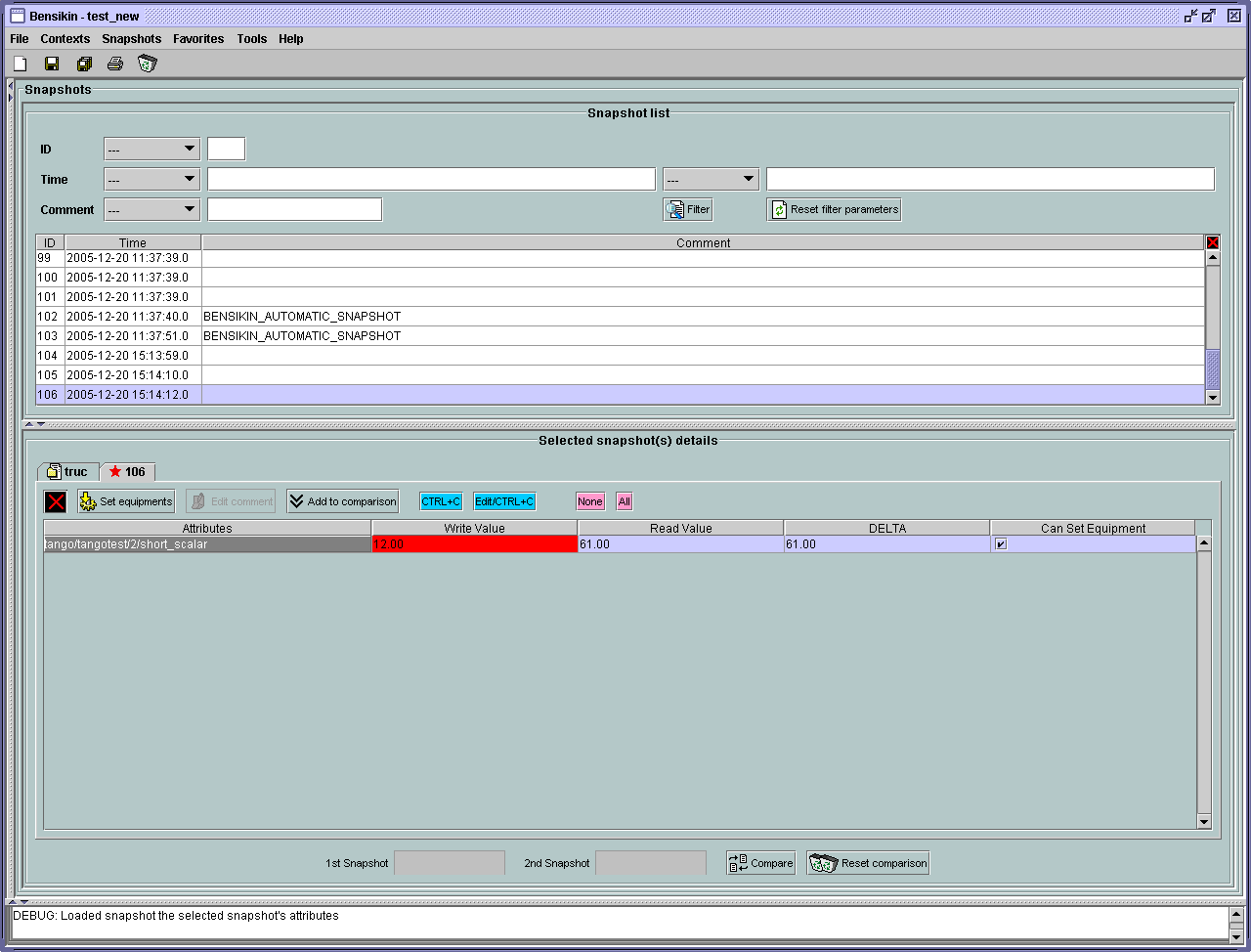
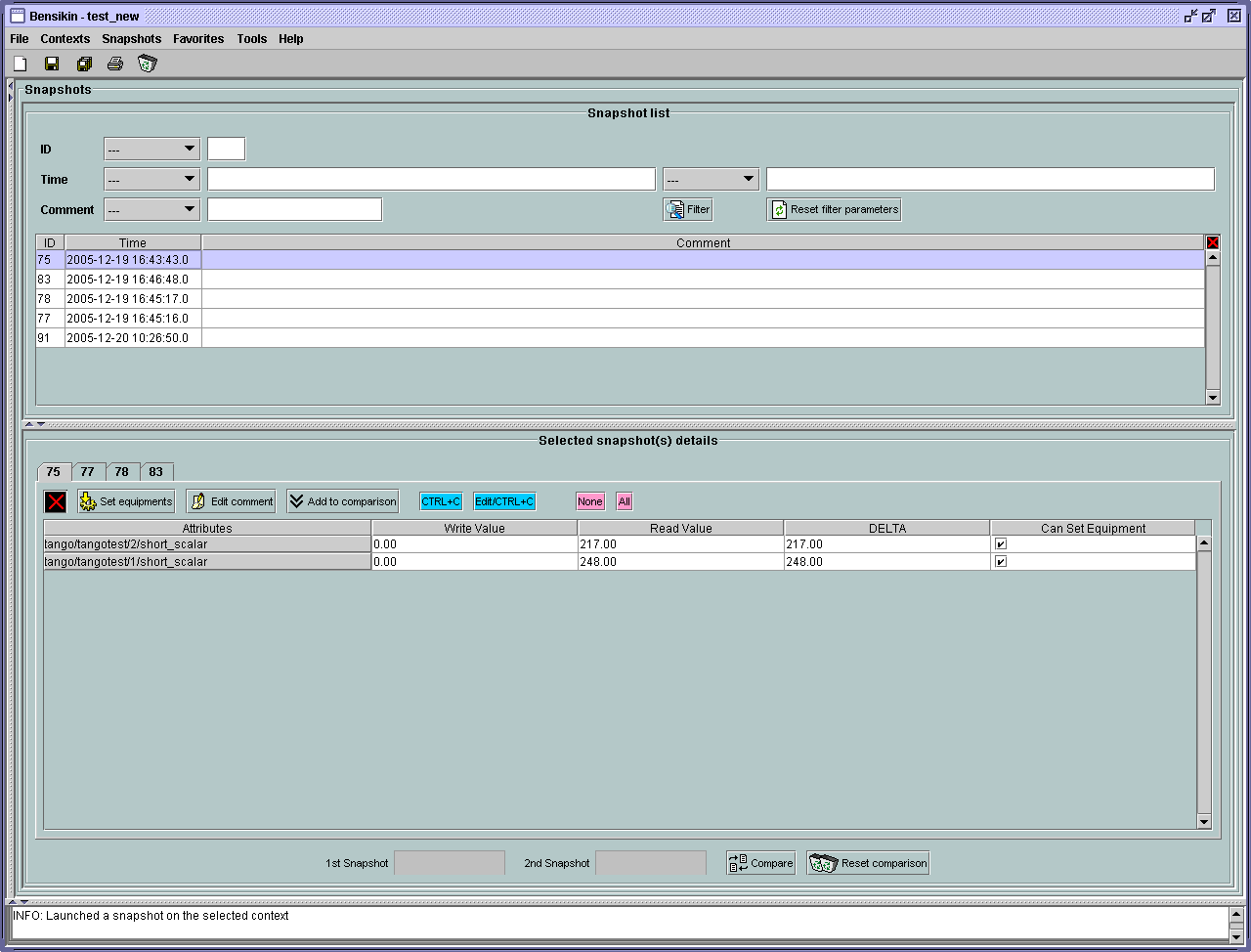
 

A classic file browser will appear. Search for your “.snap” file and select it to load the corresponding snapshot in the Snapshot Details sub panel (See Figure 12: Snapshot control panel)

## Editing a snapshot

To edit a snapshot, double click on the snapshot you want to edit in the snapshot list (in the Snapshot List sub panel). This will open a new tab about this snapshot in the Snapshot Details sub panel, tab named by this snapshot ID. If you load a snapshot from file, the name of the tab is the name of the file. To differentiate snapshots loaded from file and the ones loaded from database, the snapshot loaded from file tabs have the icon document.

### Setting equipment with a snapshot

A snapshot allows you to set equipment with its attributes write values. You can choose which attributes will set equipment, and which not, by selecting or unselecting the corresponding check box in the column “Can Set Equipment” (See Figure 12: Snapshot control panel). By default, every attribute is selected. If you unselect some attributes, an icon warning will appear in tab title to notify you that these attributes will not set equipments. You can quick select/unselect all the attributes by clicking on  and  buttons. When you are ready to set equipment with the selected write values, click on the button.

You can also modify the write value before setting equipment by editing it in the table. If you do so, the value becomes red and an modified icon appears to warn you about the fact that you made modifications in this snapshot (these modifications will not be saved in database, they are just here to set equipment).

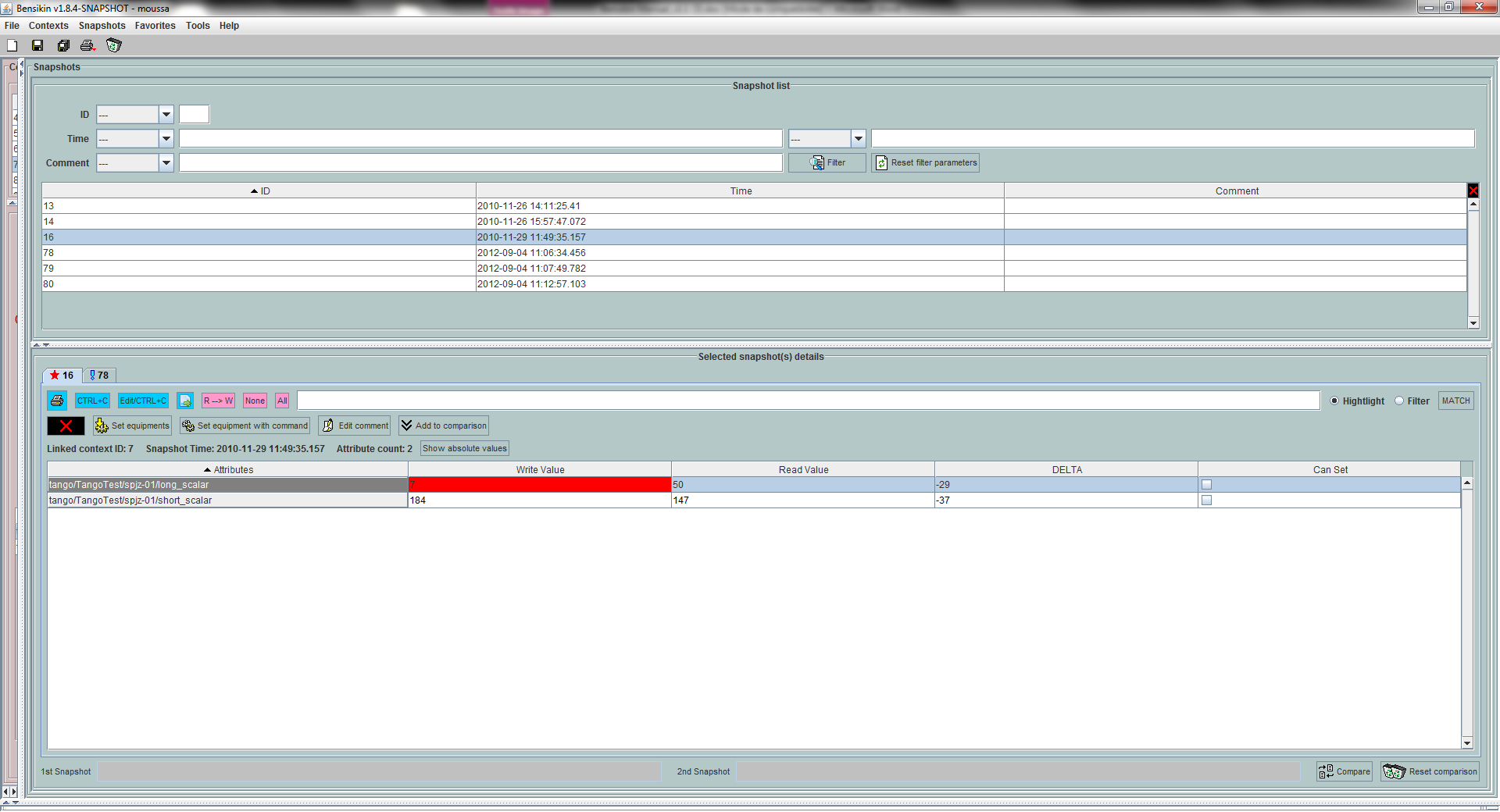
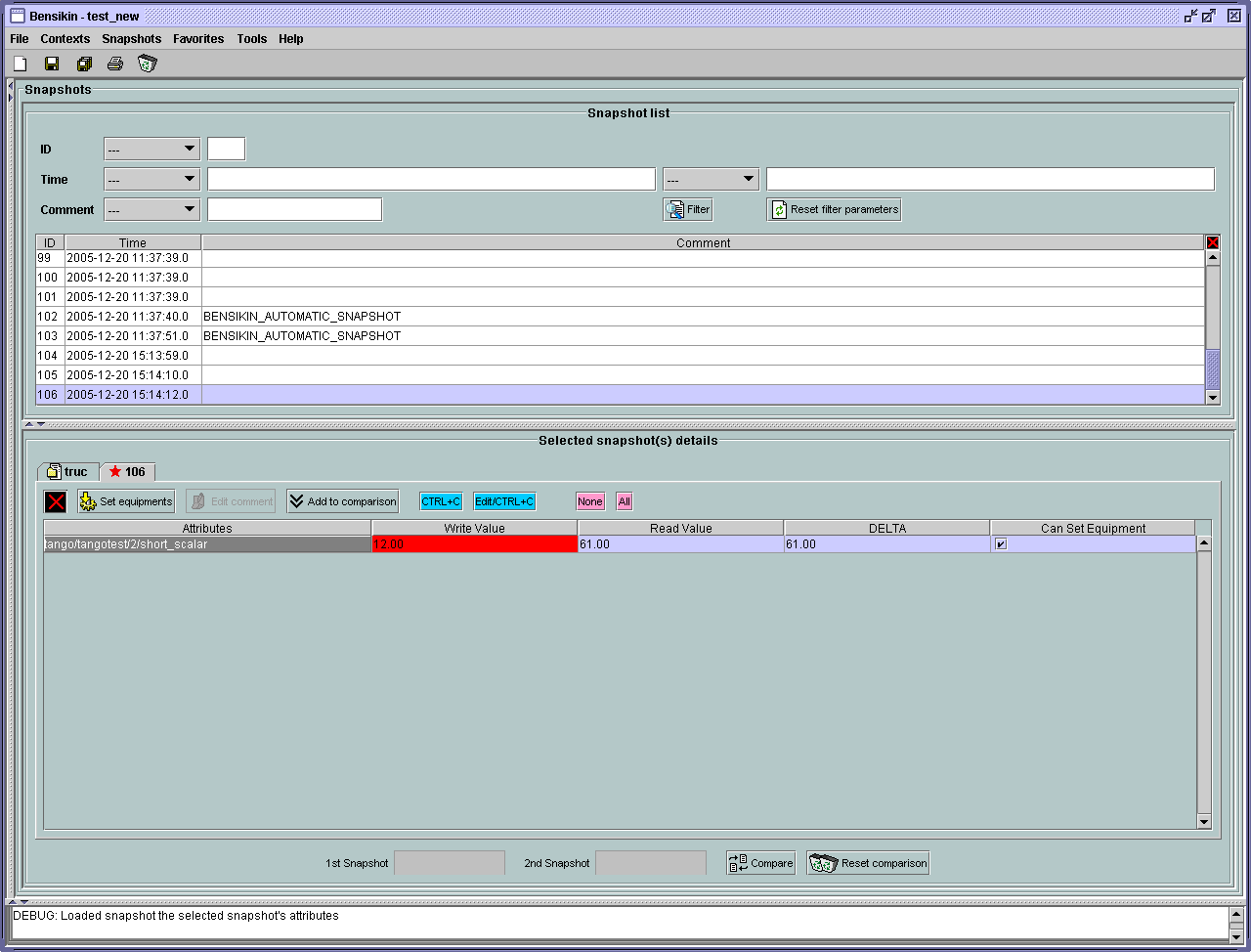
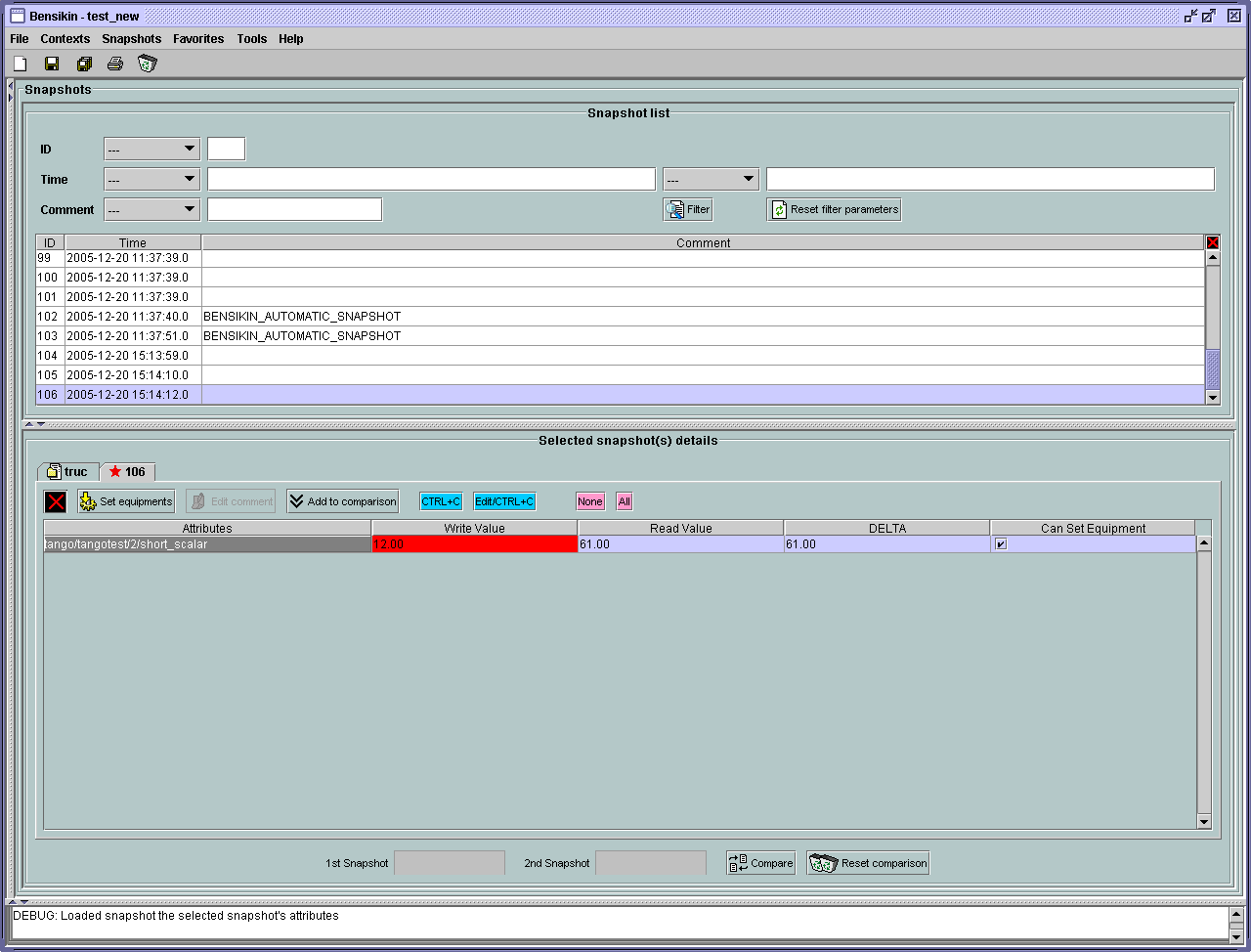
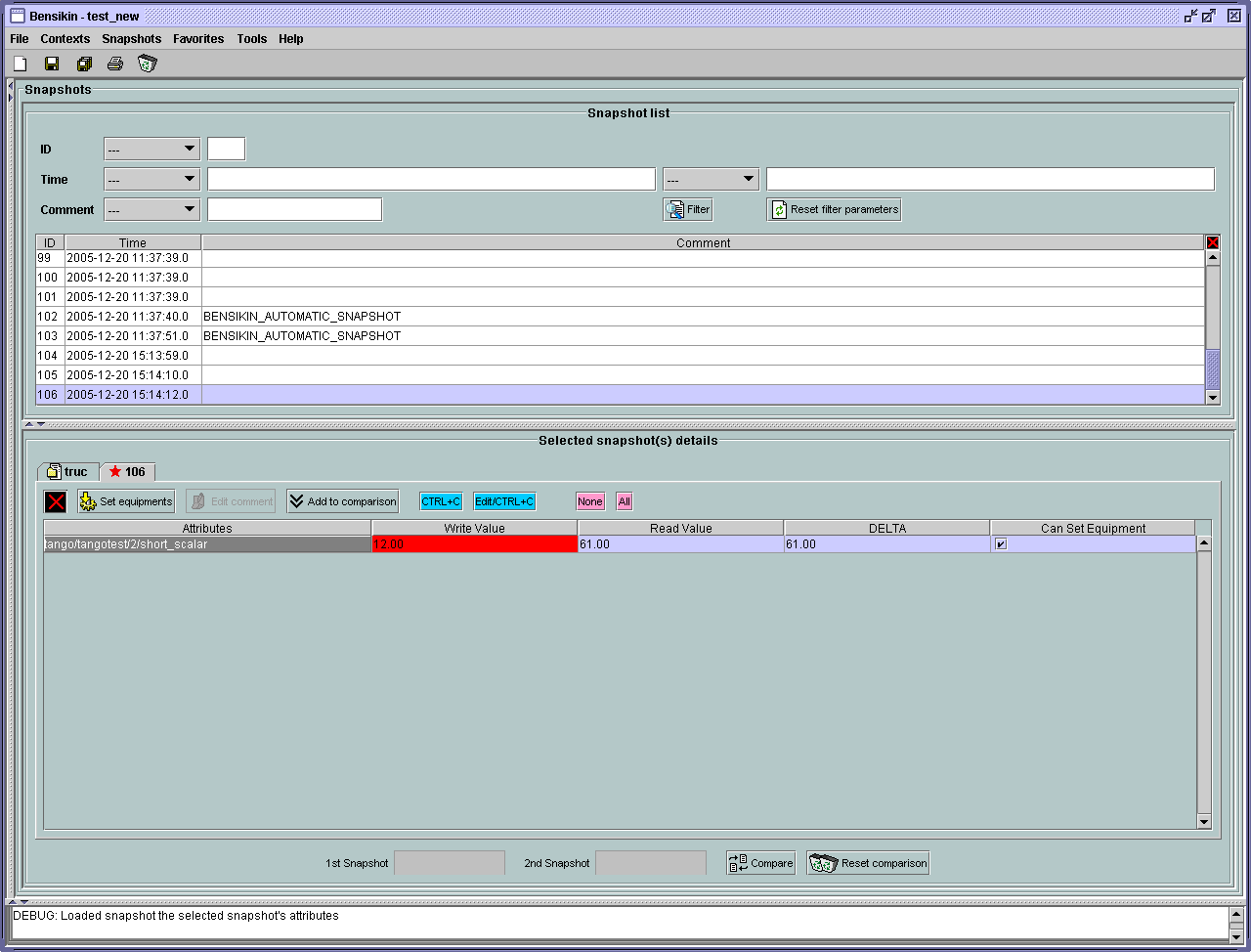


Figure 13: Modified snapshot

### Snapshot comparison

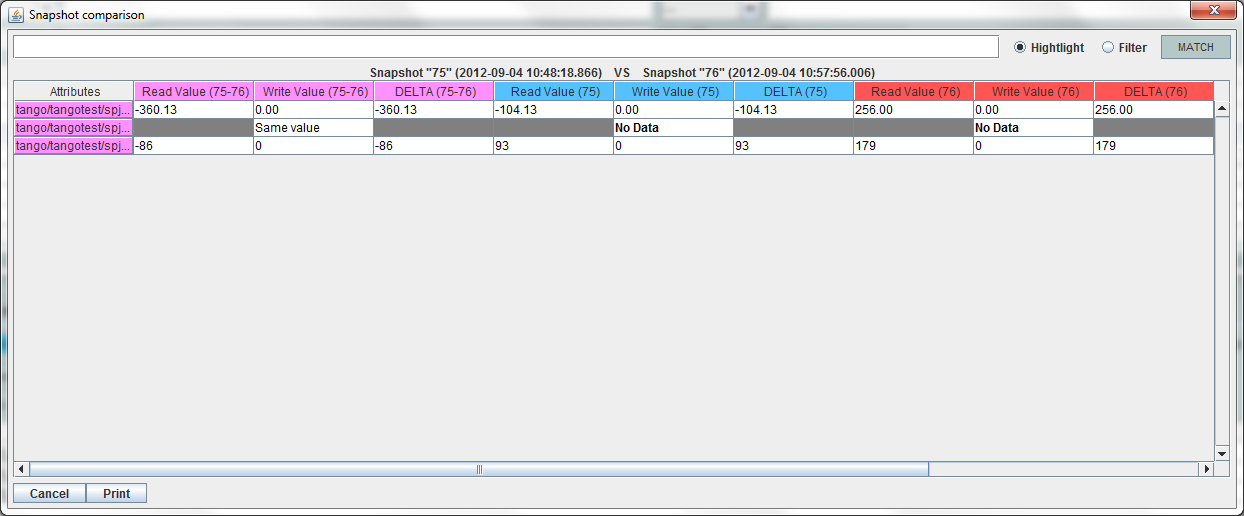
There are 2 ways to compare snapshots:

* Compare a snapshot with another one:

To do so, select a tab in Snapshot Details sub panel (See Figure 12: Snapshot control panel). Click on button. You will see the tab title of this attribute appear in the field “1st snapshot”. Select another tab and click again on  button to put this attribute tab title in the field “2nd snapshot”. Click then on  button to see the comparison between these 2 snapshots.

If user wants to see only the first line of comparison, he must check filter

Else if he/she wants to see all the details of the comparison, he/she must check 



**1st Snapshot Block**

Snapshot Details sub panel

**Snaphot List sub panel**

**2nd Snapshot Block**

Snapshot Details sub panel

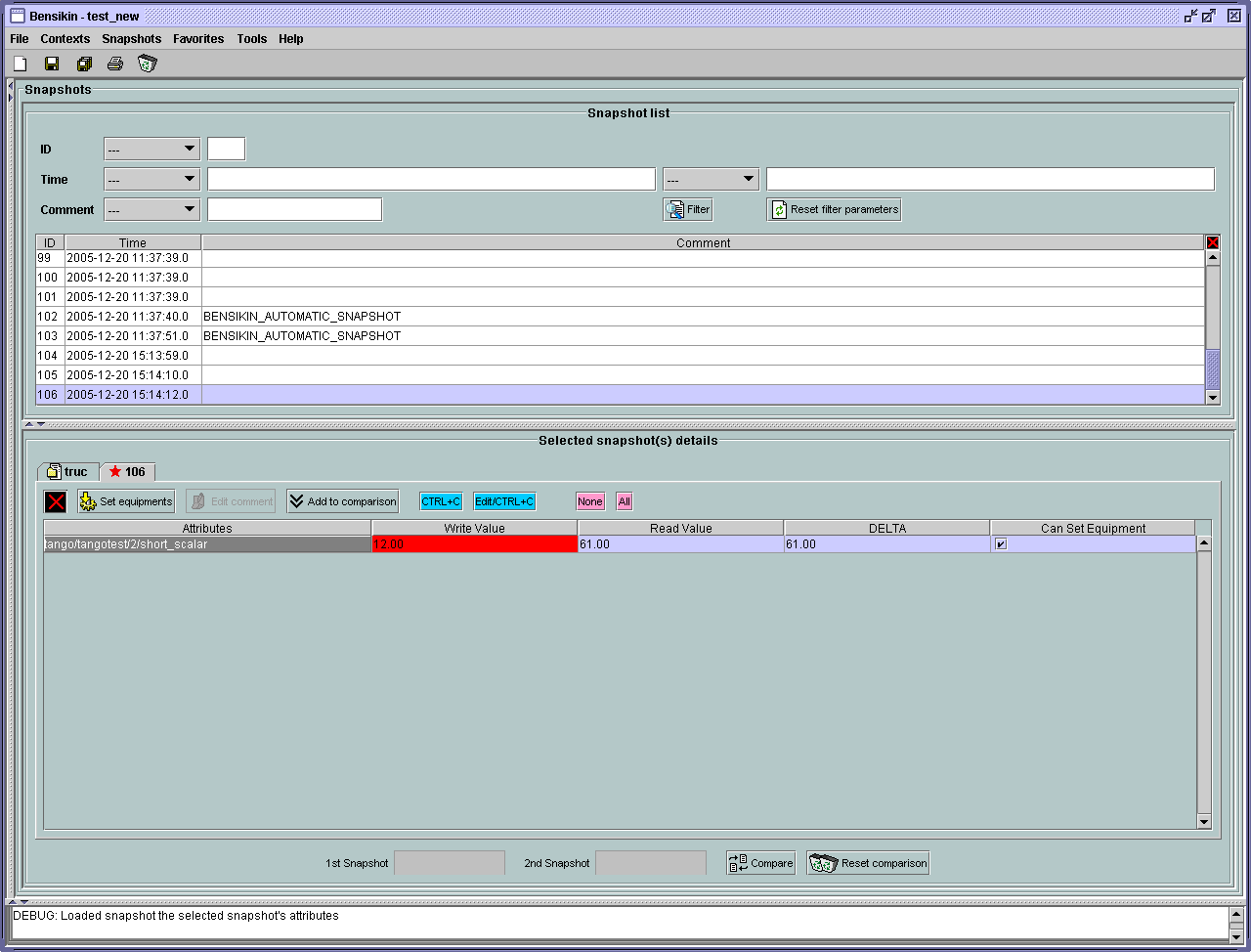
**Snaphot List sub panel**

**Difference Block**

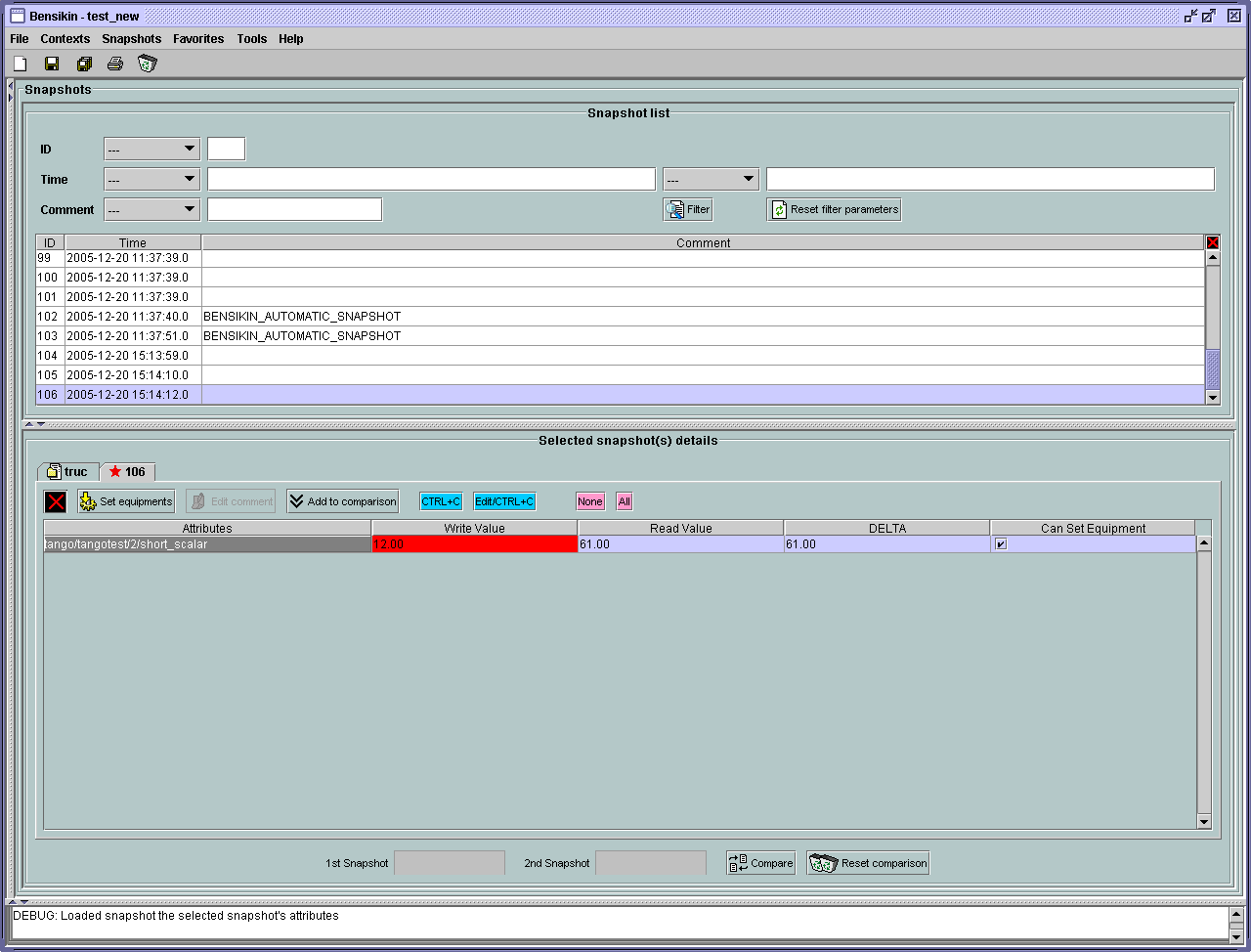
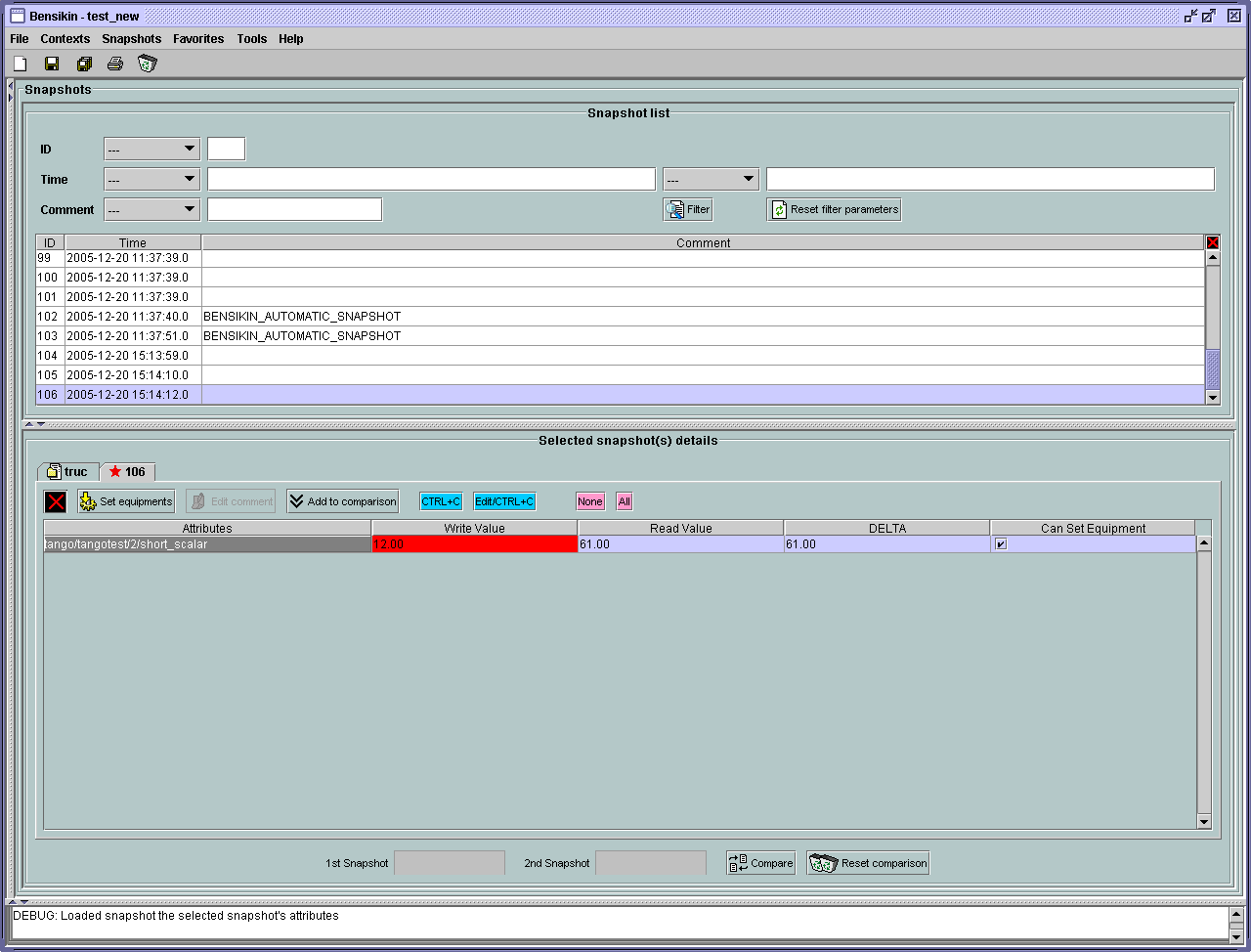
Figure 14: Snapshot comparison - full table

To print this comparison table, click on “Print “button.

* Compare a snapshot with current state:

To compare a snapshot with current state, set this snapshot as “1st snapshot”, as explained above, and leave the “2nd snapshot” empty. Note that once the “1st snapshot is selected, you only can update the “2nd snapshot or clear the comparison selection. To do so, click on the button. What is hidden behind this is a creation of a snapshot, named “BENSIKIN\_AUTOMATIC\_SNAPSHOT”, and you compare this snapshot with your snapshot. Have in mind that this automatic snapshot is registered in database. So, in the comparison table, the current state will appear as the second snapshot with the name “Current state” (red block in the comparison table).

### Snapshot Details copy

As you can see in Figure 12: Snapshot control panel, snapshots are detailed in a table. You can copy this table to clipboard as a text-CSV formatted table by clicking on  or  button. If you want to see this text result and may be filter it (like removing lines), click on  button. You will see the text appear in a dialog.

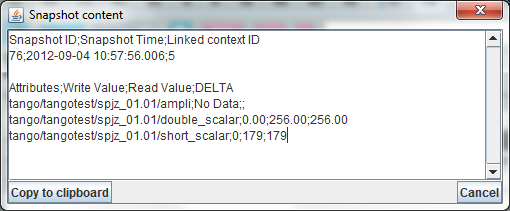
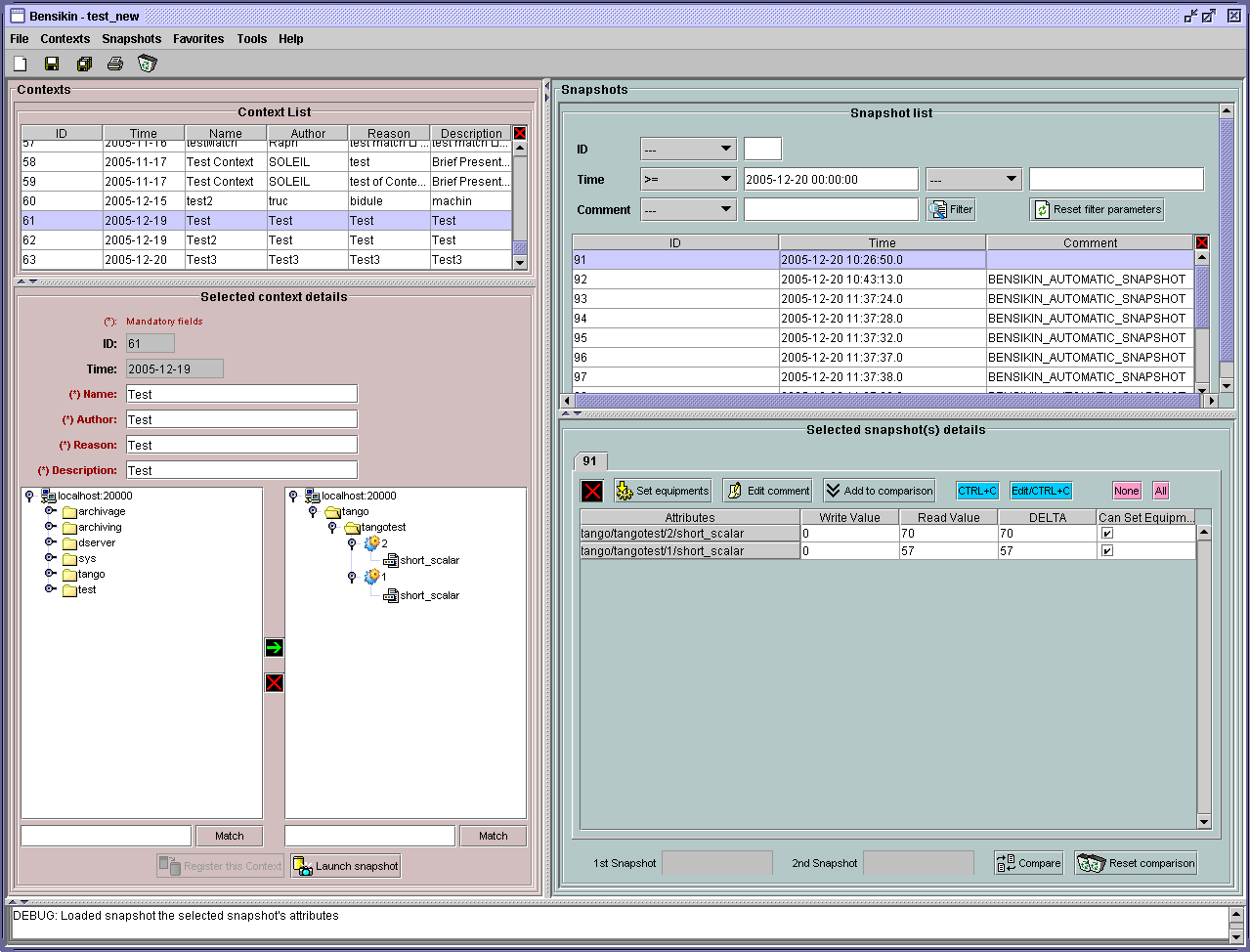


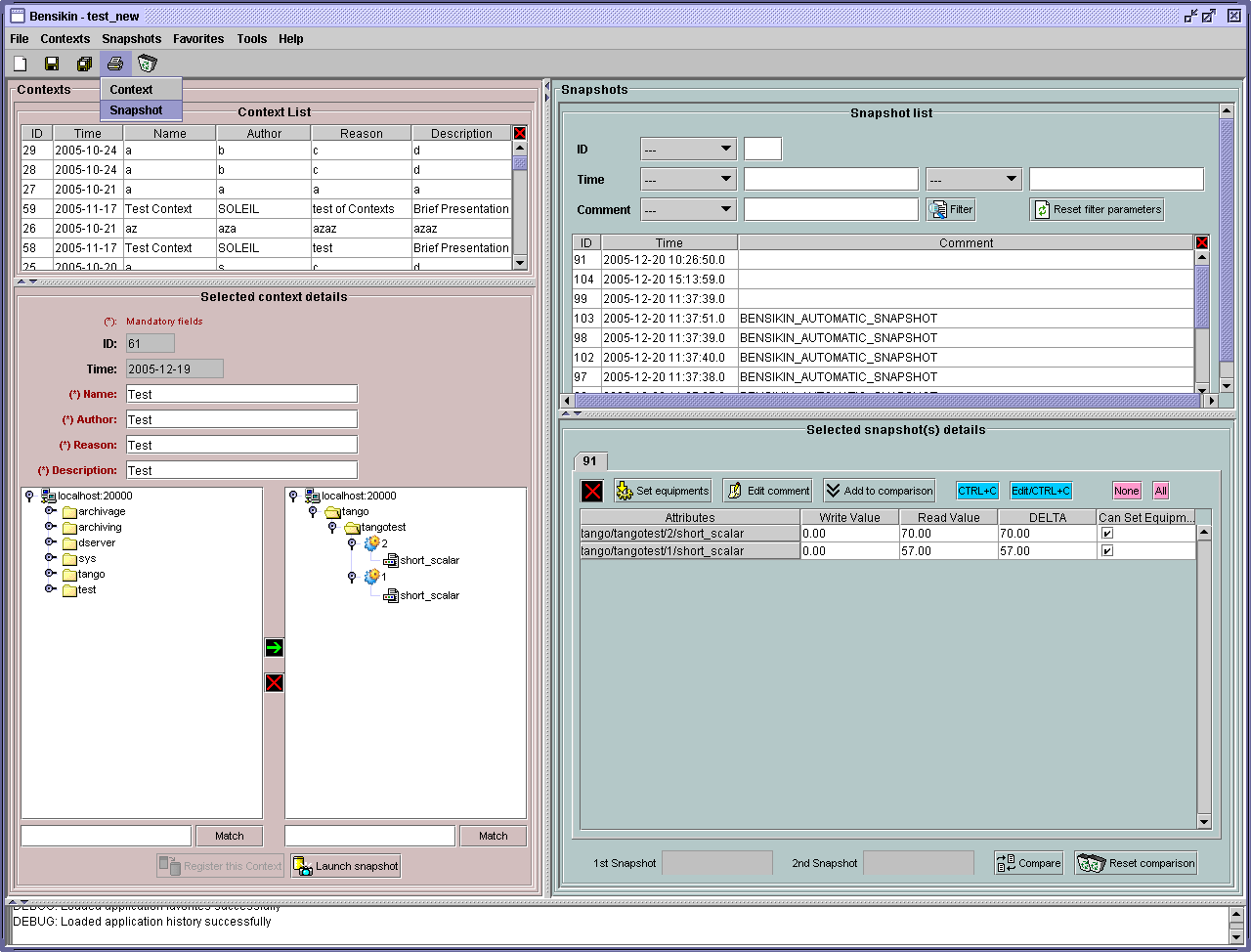
Figure 15: Snapshot edit clipboard dialog

### Modifying a snapshot comment

Once your snapshot details are loaded, click on  button to modify its comment (and save it in database or file).

## Printing a snapshot

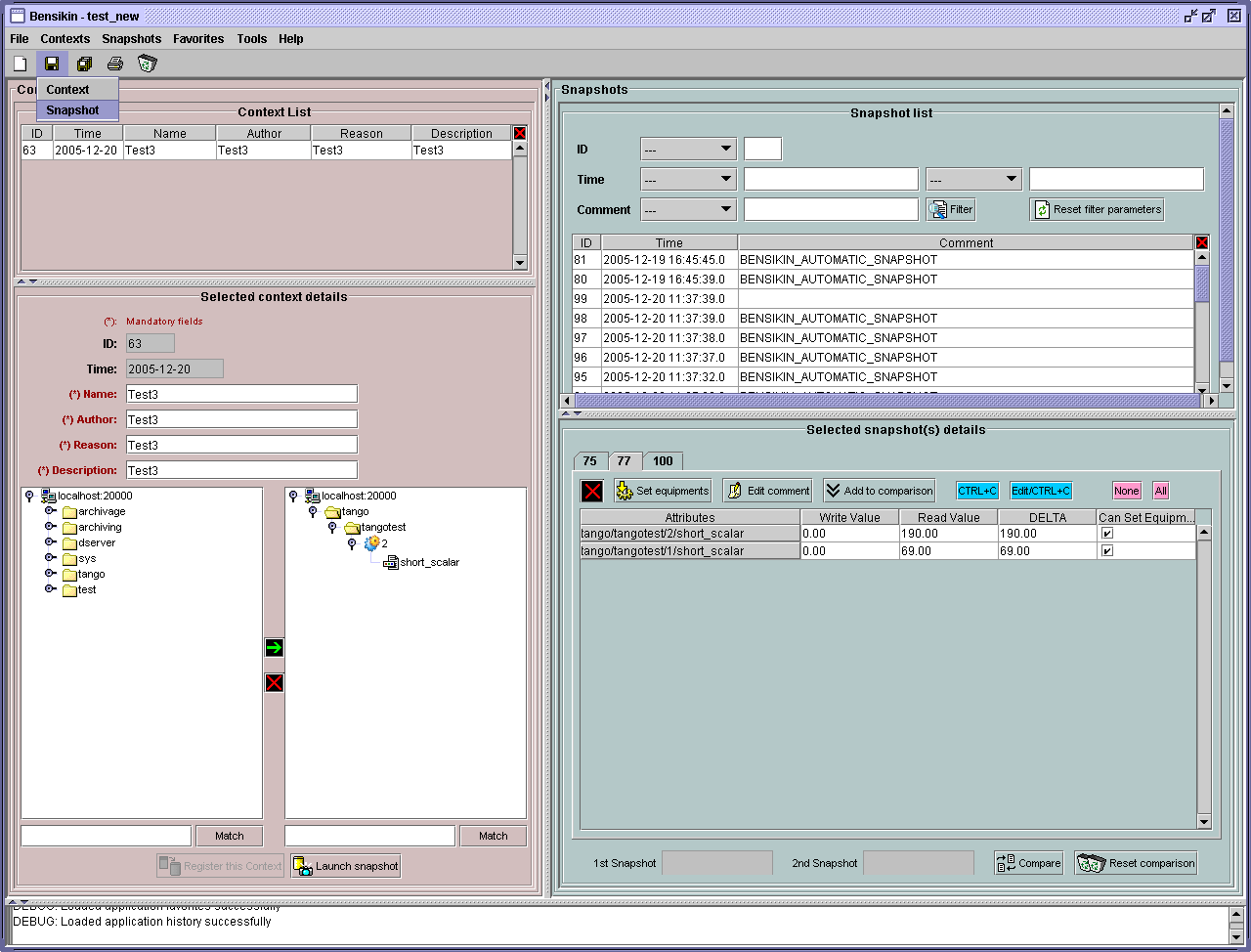
Once you have context ready, click on the “print” icon (Print) and select “snapshot”:



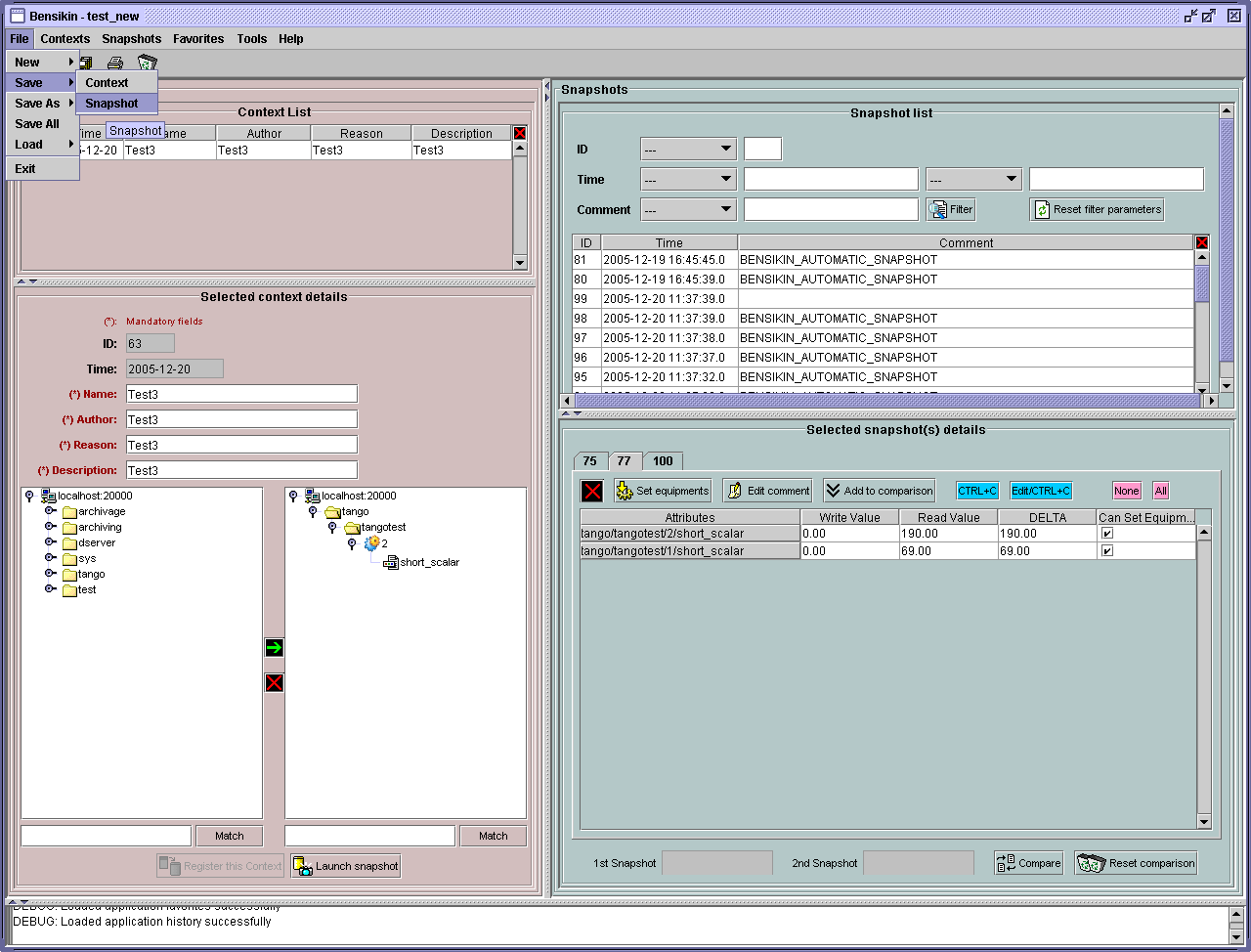
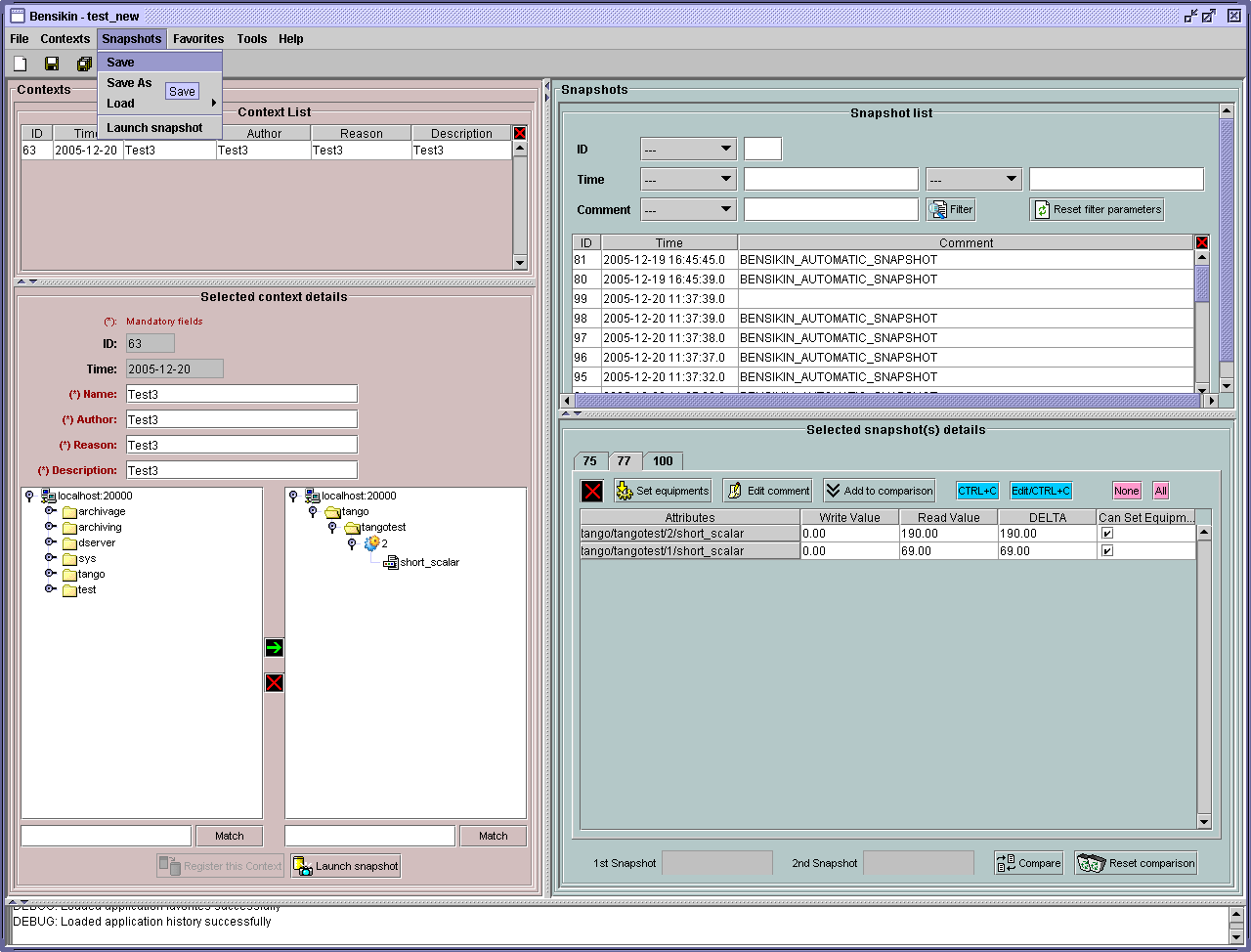
The classic print dialog will then appear. Validate your print configuration to print an xml representation of your snapshot.

## Saving a snapshot

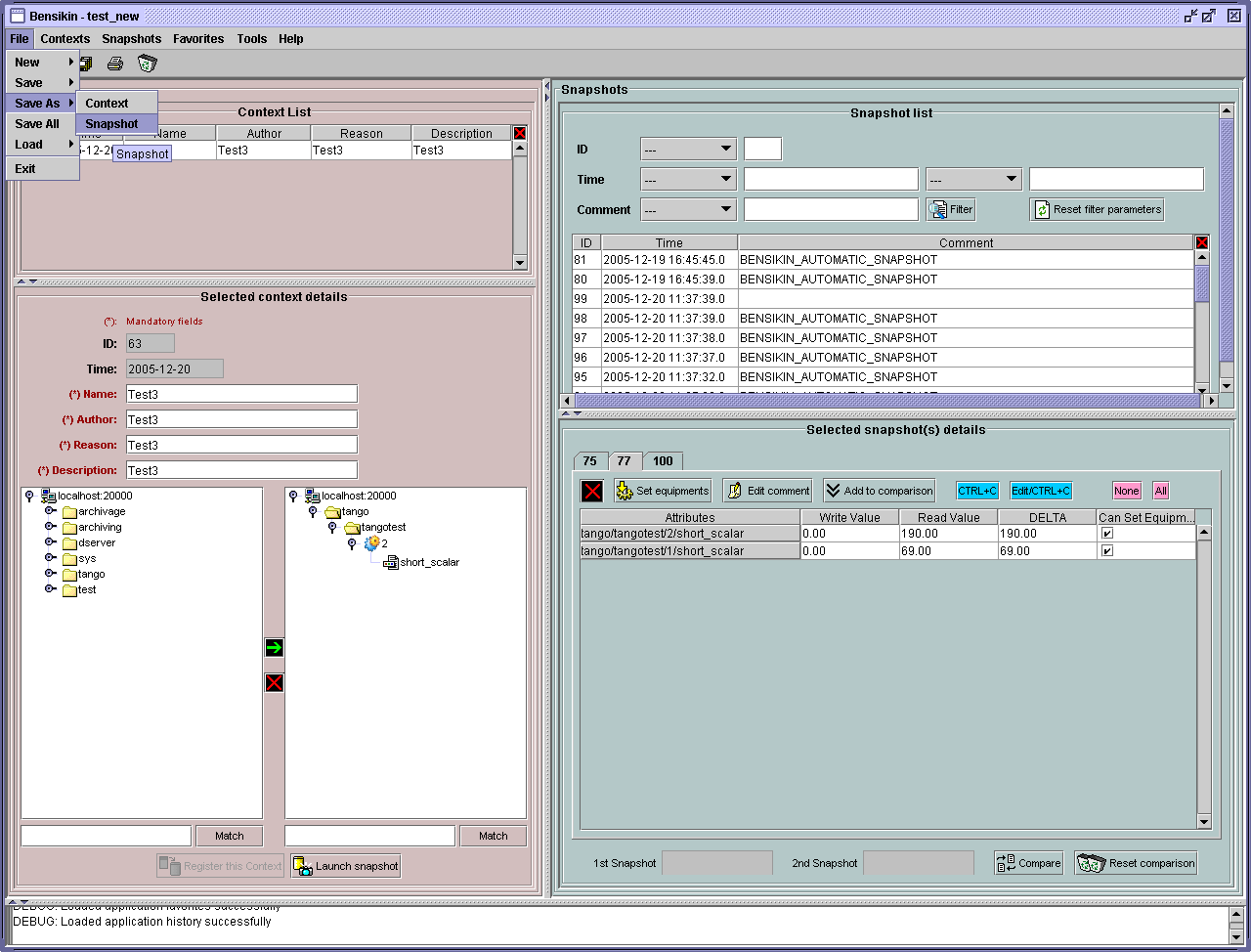
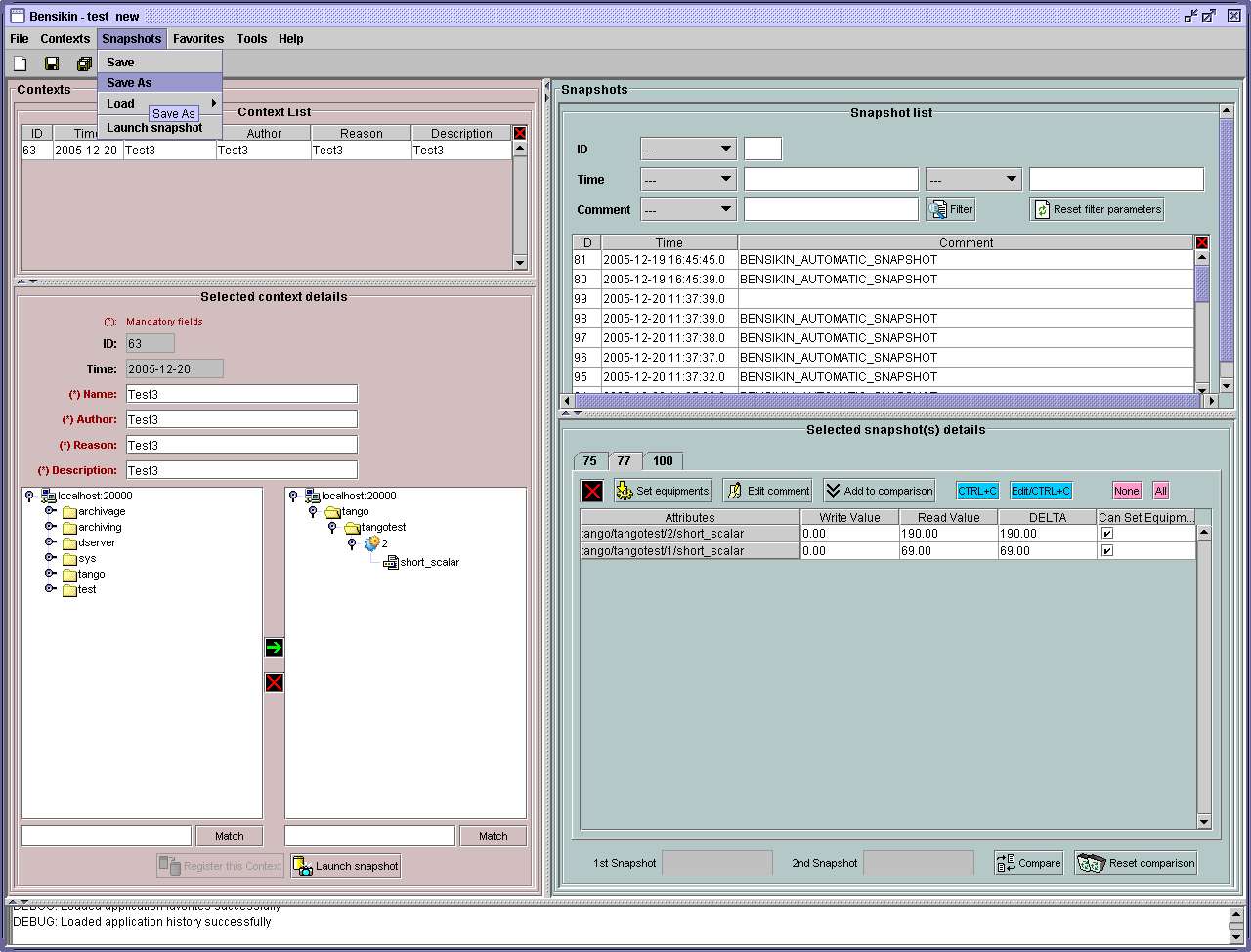
Once you have context ready, click on the “save” icon (Save) and select “snapshot”:



You can also go to menu “Context” and click on “Save”, or go to menu “File”, select “Save” and click on “Snapshot”.

Then, the behavior is “Word-like”. This means that if this is the first time you save this snapshot, you will see the classic file browser to choose where to save your snapshot, with file name. However, if not, it will automatically save in the corresponding file. If you want to save in another file, you have to go to “File” menu, select “Save As” and click on “Snapshot”, or go to “Snapshots” menu and click on “Save As”.

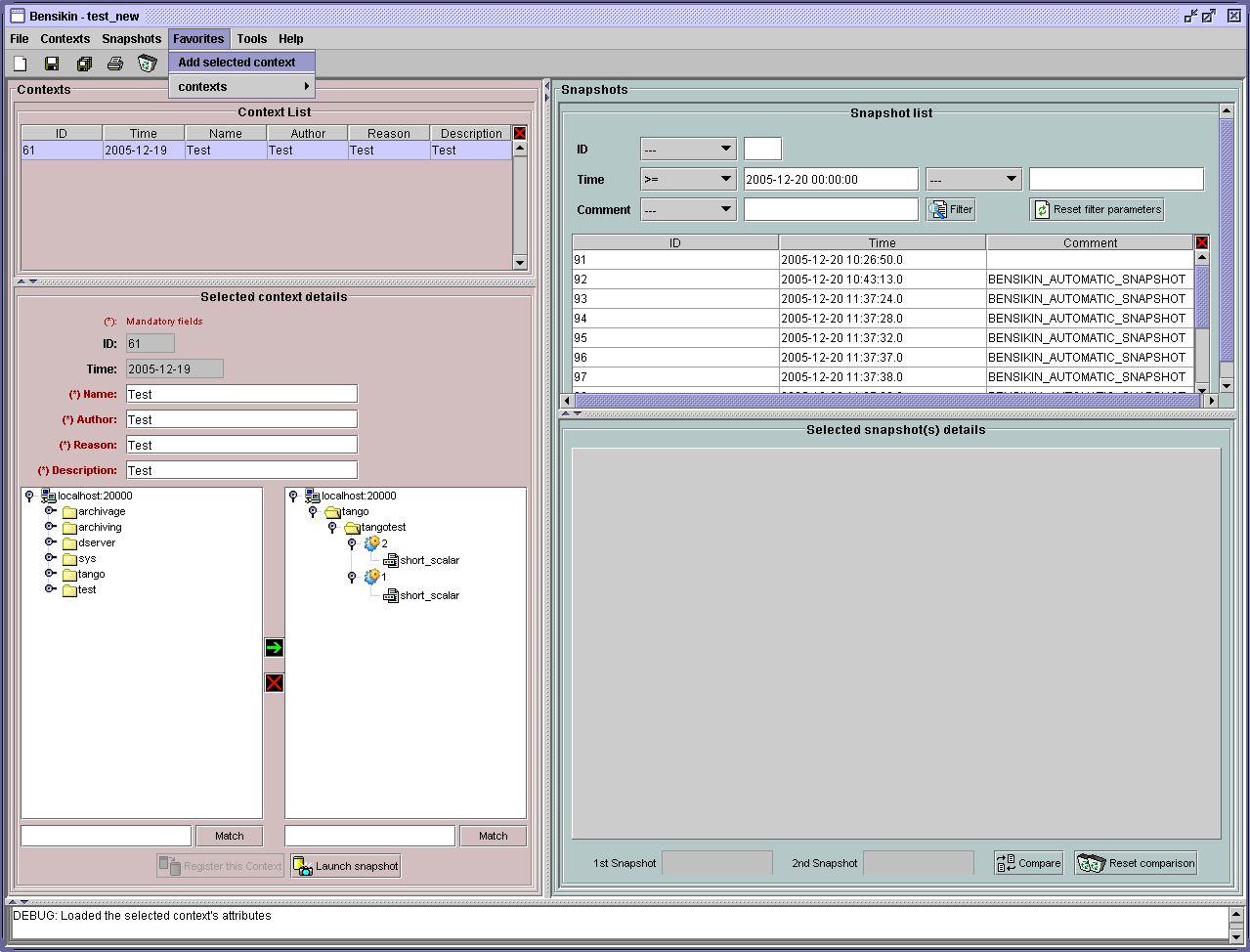
 

# Favorites

Bensikin manages a list of favorite context, so you can quickly switch to anyone of them. Those favorites are saved at application shutdown and loaded on startup.

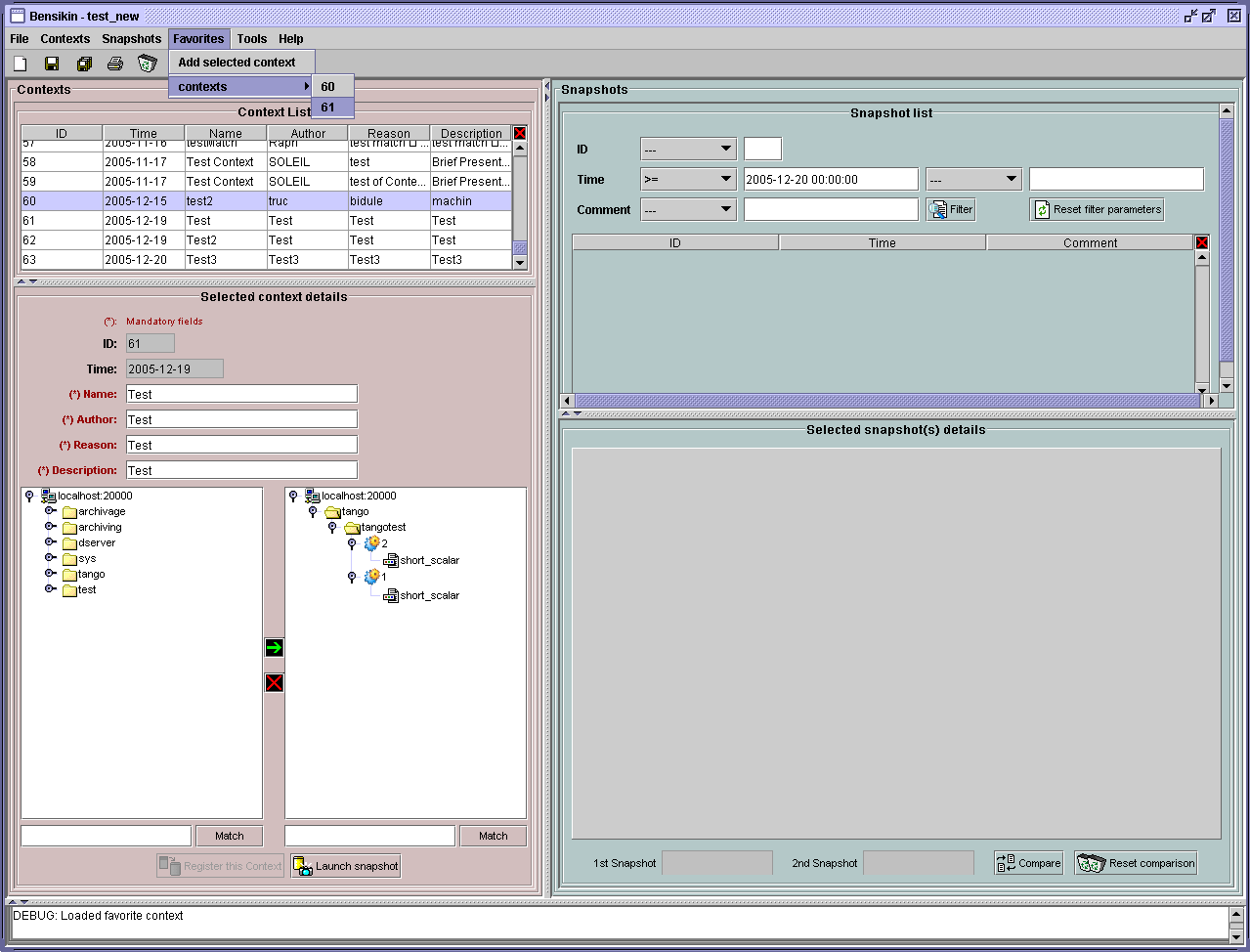
## Adding a context to favorites

To add a context to your favorites, have your context ready by creating or loading it. Then go to “Favorites” menu and click on “Add selected context”.



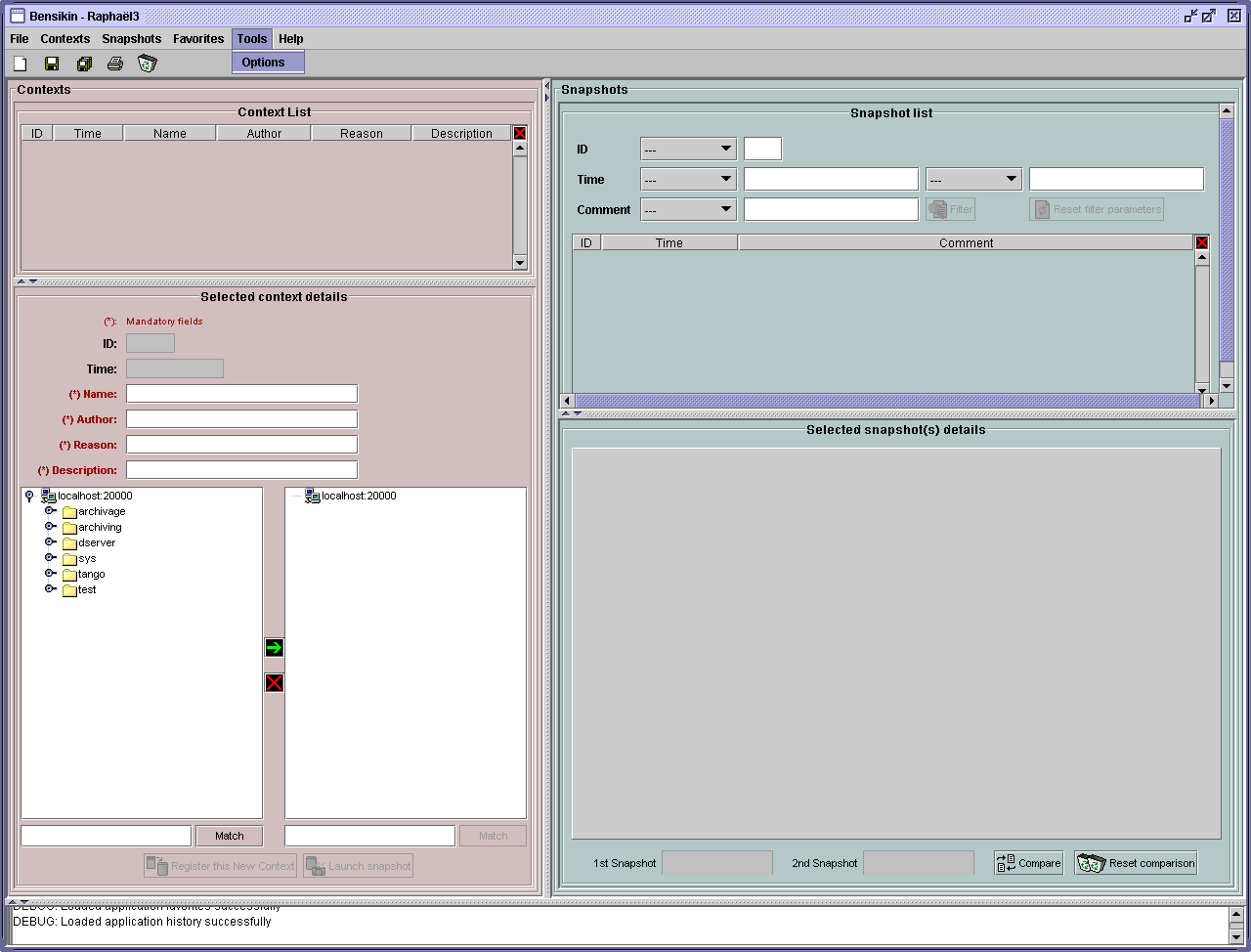
## Switching to a context in favorites

To switch to a context in favorites, which means to load it from favorites, go to “Favorites” menu, select “contexts”, and click on the context you want to load.



# Options

Bensikin manages global options. Those options are saved at application shutdown, and loaded on startup. The Options menu is located in the Menu bar: Tools🡪Options.



* 1. Application’s history save/load Options

Define whether Bensikin has a history, i.e. a persistent state when closed/reopened.

If yes is checked, a XML History file will be saved in Bensikin’s workspace, and on next startup the current Context and Snapshot will be loaded.

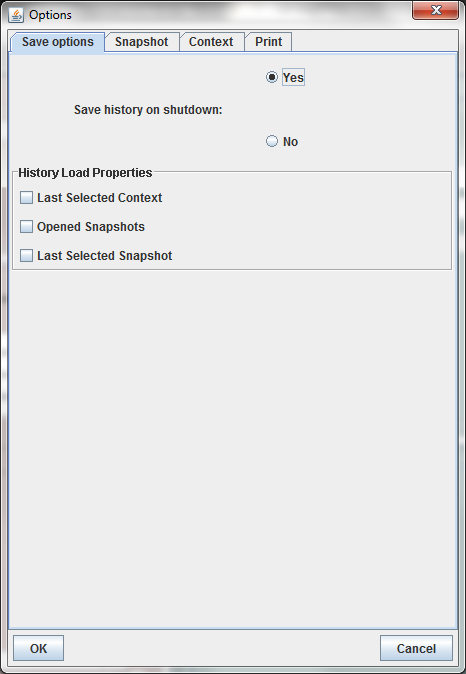
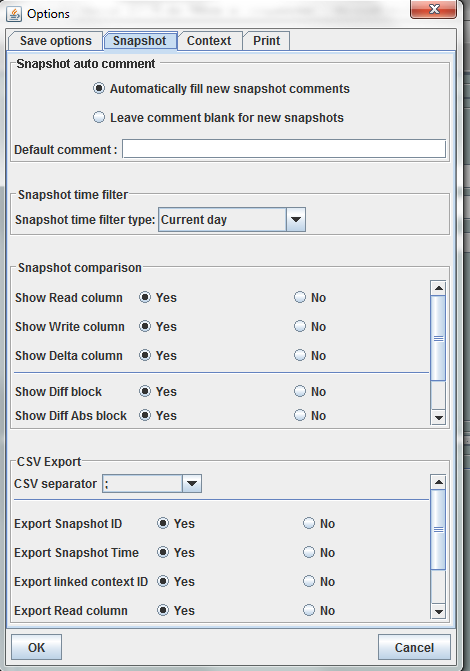


Figure 16: Save option

## Snapshot Options

These are the Bensikin Snapshot Options:

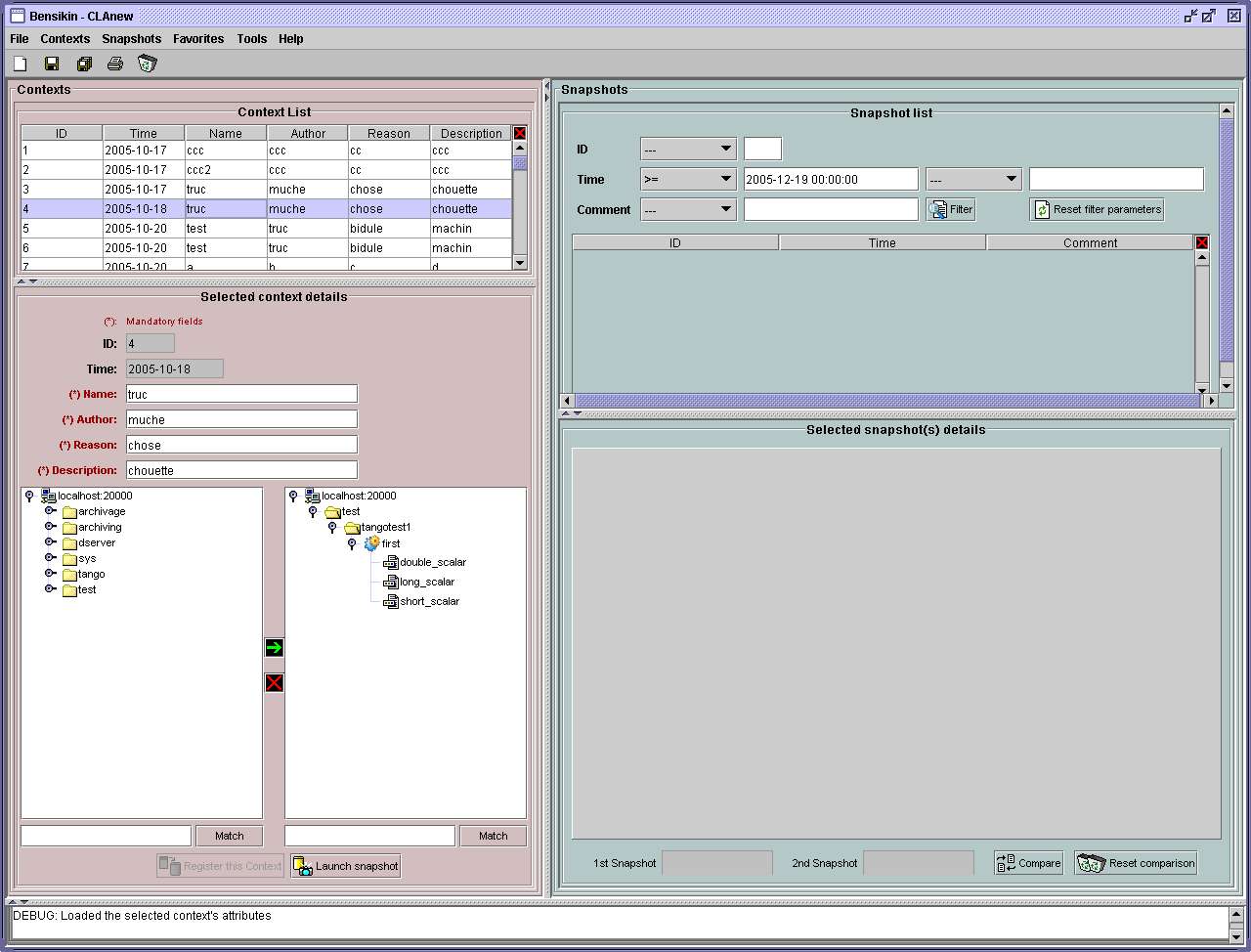


**Export Panel**

**Comparison Panel**

**Comment Panel**

Figure 17: Snapshot options

* In the Comment Panel, you can choose to automatically set or not a value to a new snapshot comment. This means, when you click on  button, the newly created snapshot will or will not have a pre-defined comment.
* In the Comparison Panel, you can choose which columns you want to show/hide for every block in the Snapshot Comparison table. You can choose to show/hide the Difference block too (See Figure 14: Snapshot comparison - full table)
* In the Export Panel, you can choose the column separator for your text-CSV formatted tables (See Figure 15: Snapshot edit clipboard dialog), and which columns to export.

## Context Options

Context options allow you to select which way you want to edit your contexts, see Figure 8: Option –context tab and the “5.1 Creating a new context” section.

## Print Options

The Print option allows you to print text or table in the Snapshots or in the Contexts.

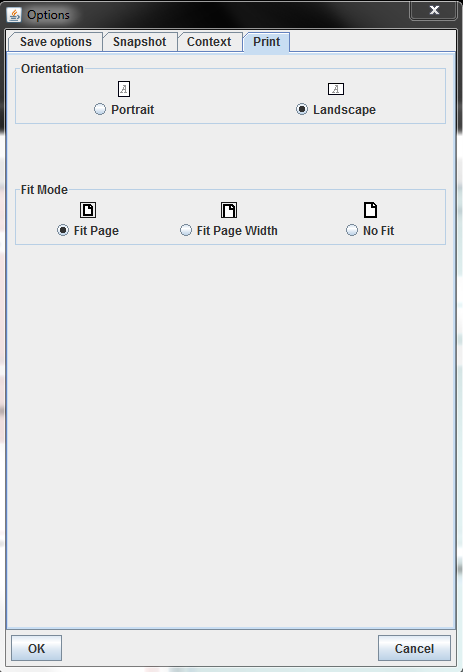


Figure 18: Print option

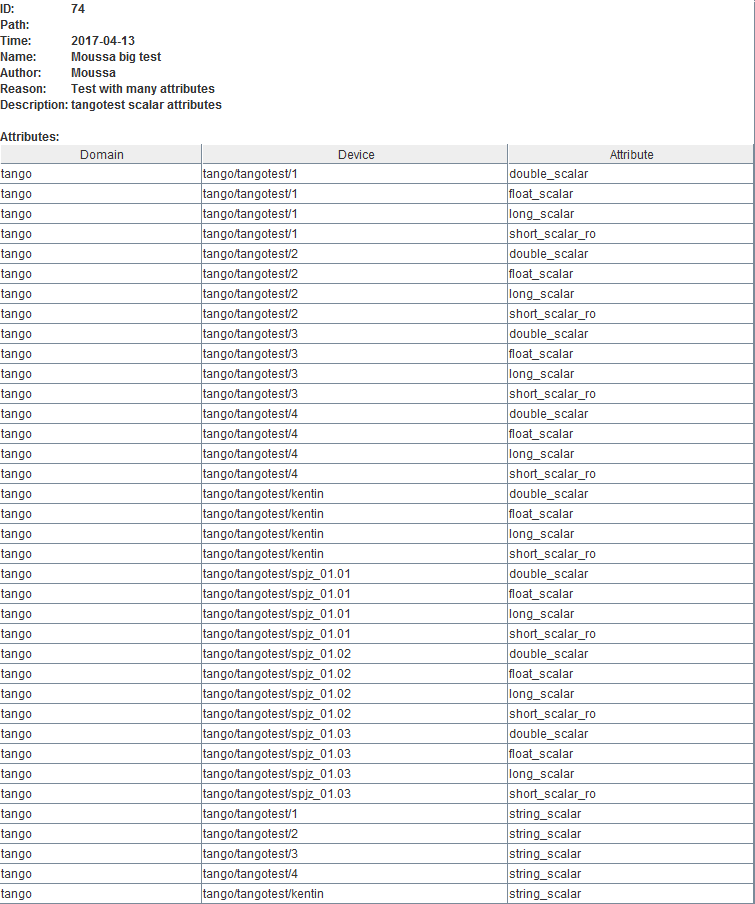
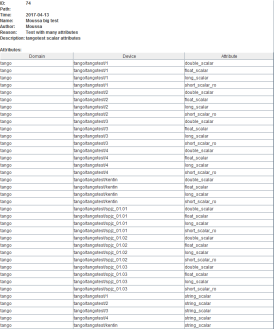
When you check, you adapt the size of your print to the size of your page.

When you check, you cut the length of your print on several parts and the width of your print takes the width of your page.

When you check, the length and the width of your print are cut on several parts.

Example with a context table (black rectangles represent pages):

 : :

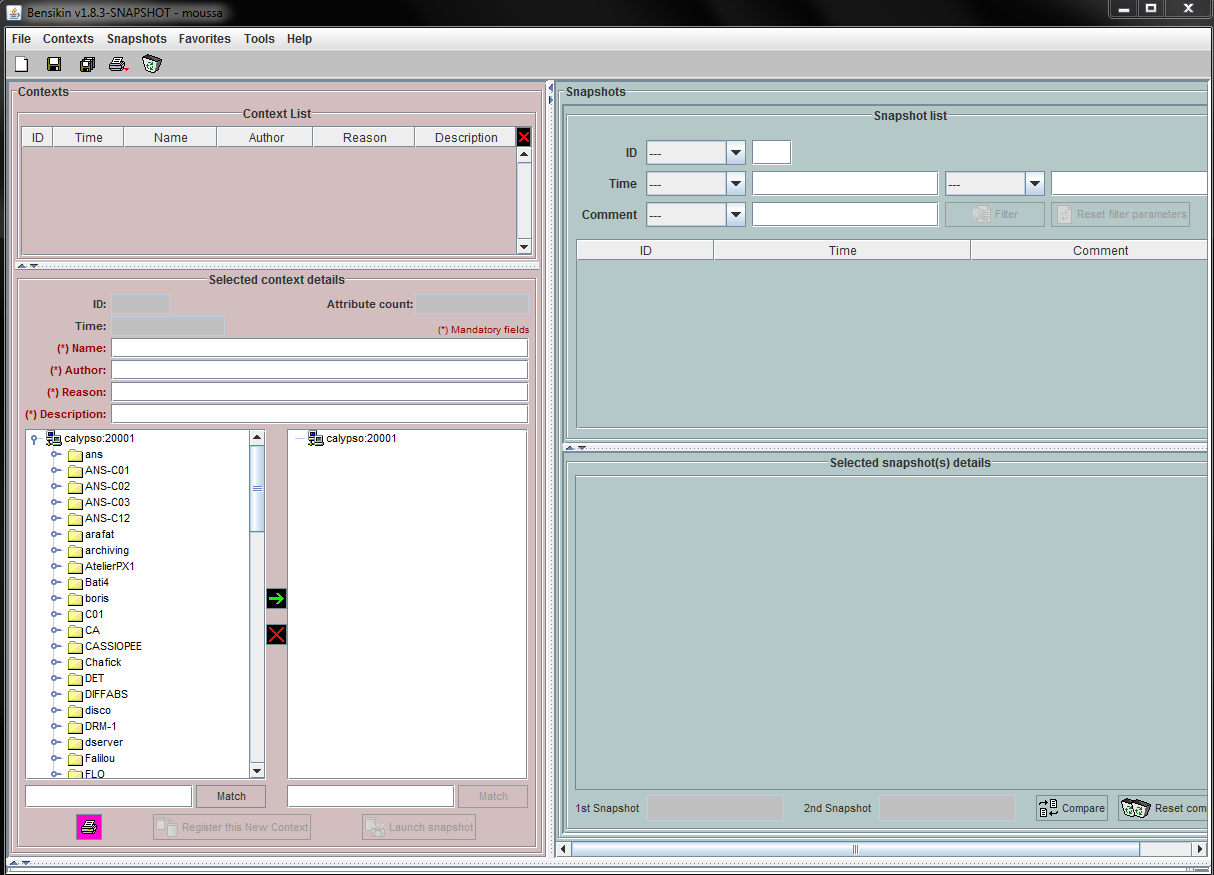


:



# The Bensikin toolbar

The toolbar is located under the menu bar, and consists mainly of a set of shortcuts to often used functionalities.



***The toolbar***

Figure 19: Bensikin toolbar

* New is a shortcut to creating a new Context
* Save is a shortcut to saving the selected Context/Snapshot into a Context/Snapshot file
* save_all is a shortcut to doing a saving all opened Contexts and Snapshots
* Print is a shortcut to printing the xml representation of the current Context/Snapshot
* Trash_-_Reset is a shortcut to removing all opened Contexts and Snapshots from display