Tutorial

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1 Introduction: What is COLIBRI

This tutorial introduces the concepts behind COLIBRI - a component and library browser for JavaBeans and other components. COLIBRI is part of the HADES Project. It will be used mainly by students and is provided as freeware. COLIBRI is designed to maintain hierarchical component libraries, which are either local or remote on servers in the internet. COLIBRI uses the HTTP protocol and therefore enables clients behind a firewall to access the server. COLIBRI also offers change management functionality. Different versions of a component can be maintained and loaded at the same time.

This tutorial is structured as follows. Section 2 presents the user interface of COLIBRI and helps you to get started. If you are developing your own components see section 3 for details on how to provide information on these componenents. Section 4 is for the Administrator of the COLIBRI Server. It shows how the server should be configured to work together with other COLIBRI Servers. In section 5 we explain how COLIBRI can be used with other builder tools. In section 6 we try to answer frequently asked questions and list know bugs of COLIBRI .

2 COLIBRI in a Nutshell

2.1 Installation

COLIBRI is written in 100% pure Java. For this reason you should be able to run COLIBRI on every computer system for whith an implementation of Java 1.1 or higher is available. Please note that you also need to have the aditional Swing package (Java Foundation Classes) installed.

As COLIBRI was designed to work with the HADES simulation framework from the University of Hamburg, is is provided as a part of the whole HADES package.

You can download COLIBRI from
http://tech-www.informatik.uni-hamburg.de/Students/2kroene/hades/COLIBRI .zip.
After downloading unzip the files to some directory, eg. C:\hades
For details on the installation of HADES see the Hades Tutorial. (http://tech-www.informatik.uni-hamburg.de/Applets/archives/hades)

2.2 Running COLIBRI

When used with HADES COLIBRI will automatically be invoked when starting HADES. For the standalone version we provide a batch file which will start COLIBRI .

The first time you start COLIBRI , the configuration Wizard will pop up and help you make the necessary configurations to be able to use COLIBRI . These configurations include the locations of the components that COLIBRI manages, bookmarks to one or more COLIBRI servers that will enable you to browse for components in the internet, and the proxy server settings required, if you are located behind a firewall.

After a few seconds the COLIBRI Browser window should pop up. A progress bar will be shown while loading.

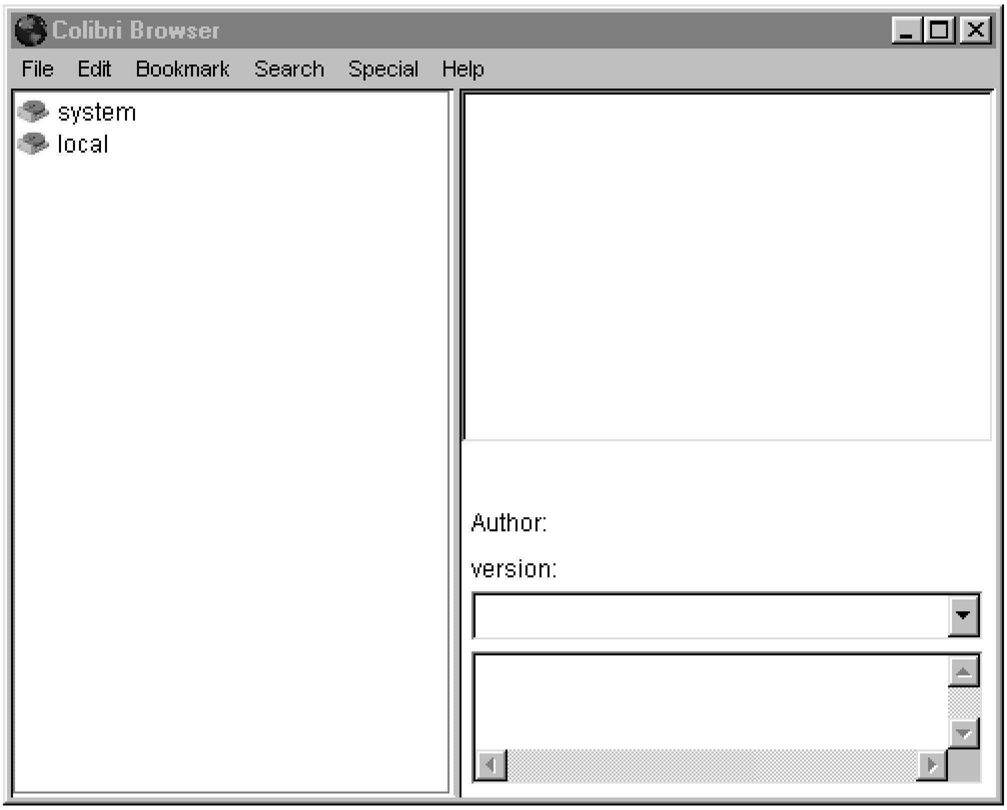

Figure 1: The COLIBRI Browser window at start-up.

In the left part of the Window you can see a tree view of the available components. When used with HADES there will be two local directories which contain components. The first one is the system directory. This contains components which are provided by the system you are using the browser with. Usually the system components can not be edited.

The second directory is the local directory. In this one the user can manage his own components and install components from the web.

If you double-click on one of the directories the component tree pops up. When you select a component with a single mouse click the browser will show you all the information available for that component. This can include an image of the component, the author, a list of the available versions and a description of the component. In Figure 2, the browser displays the information for the component „And2“ from the system library „gates“.

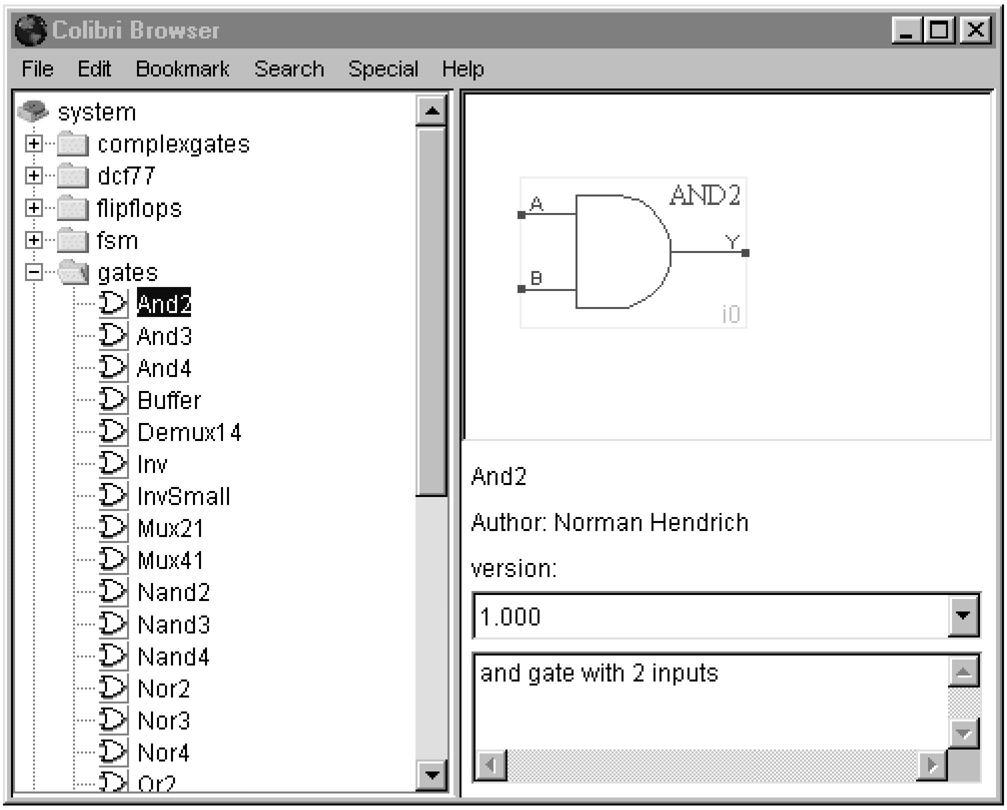

Figure 2: Information on the component And2

Additionally Colibri provides a context (popup) menu for all the componente in the tree view (right mouse click). In the popupmenu for this component you can find further information on the component. If available, you can view HTML-documentation for this component. In the Properties window you find information on how the component is represented in the Browser. This is for advanced users only.

Figure 3: the popup menu for components

2.3 Directories

As described above there are two local directories which contain components. The first one is the system directory. This contains components which are provided by the system you are using the browser with and can not be edited.

The second directory is the local directory. In this one the user can manage his own components and install components from the web.

The first time you start COLIBRI the Wizard will ask you for these directories. But of course you can always change them at a later time. You can find the Options dialog in the File Menu.

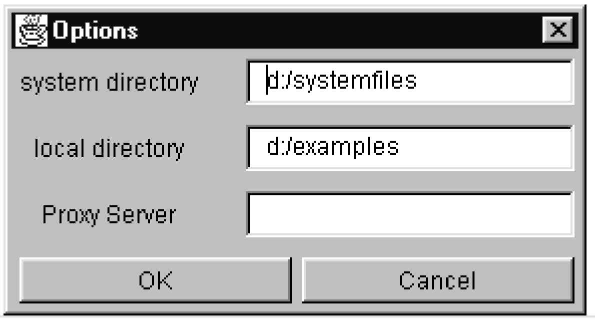

Figure 4: Specifying local and system directories

2.4 Selecting a component

For hierarchical components there are two ways in which they can be used. You can either select them to insert them into an existing component, or you can open a component.

To insert a component into another component, eg. to insert a HADES SimObject into a HADES Design, you can simply doubleclick on the component. The component will then be added to the supercomponent you are currently editing. If implemented by the builder tool (and COLIBRI) you can also use copy and paste or drag and drop to insert components into the editor.

If you want to open an existing supercomponent, you can choose „Open" from the context menu.

2.5 Saving a component

In your Editor you should have the option to „Save" and to „Save As" a component.

When you choose „SaveAs" or „Save" for the first time the save dialog window will appear. (Figure 4) On the left you can see the tree view of your local directory. You can click at the location where you want your component to be saved. On the right you can specify the path further and choose a name for the component. If desired you can edit the version (see 2.8 Versioning). You should also specify your name as the author and provide a description of the component and its functionality. If you have specified your name in the configuration wizard, it will automatically appear in the author text field.

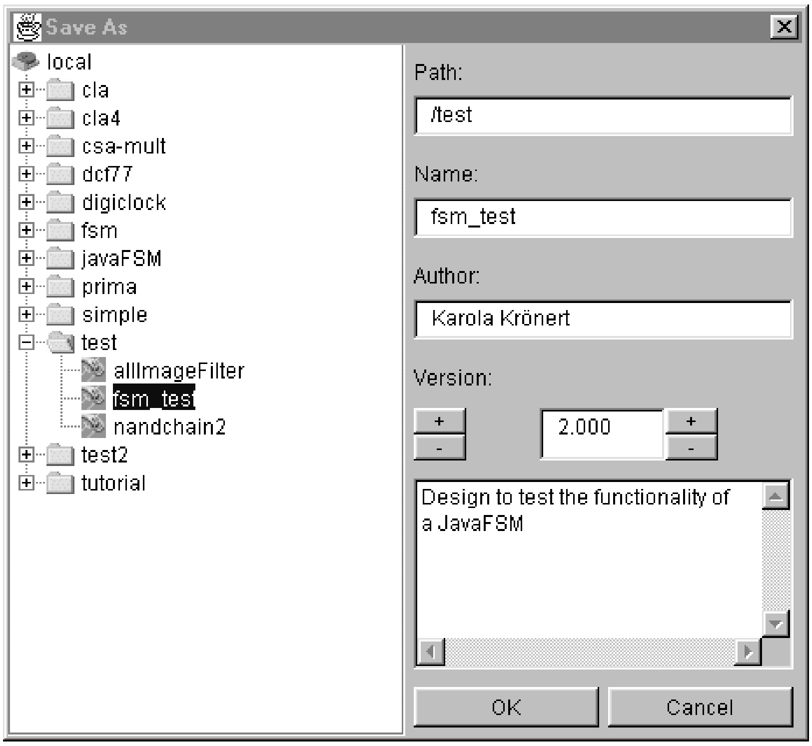

Figure 5: The save dialog box.

2.6 BeanExplorer

The BeanExplorer is a usefull tool which enables you to open a jar-file and analyze the containing beans. You can then install the beans in the Browser if desired. The BeanExplorer displays all available information on the bean, as provided by the manifest of the jar and the BeanInfo files.

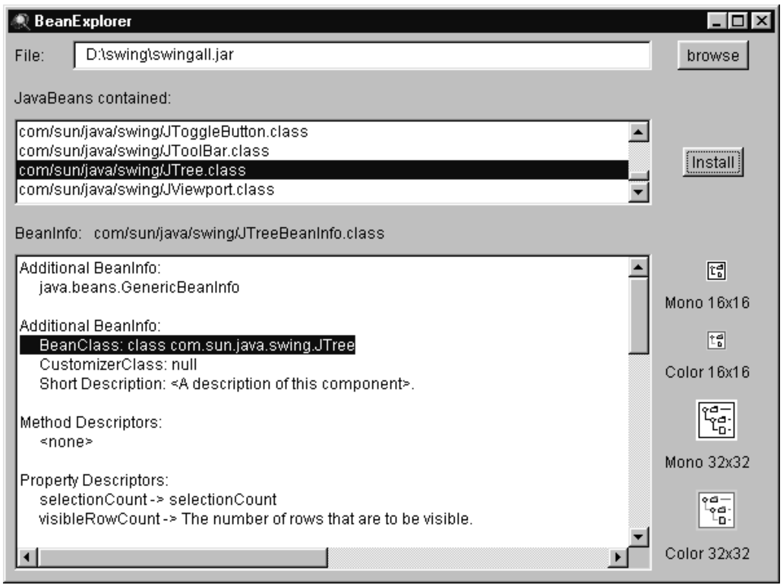

Figure 6: BeanExplorer

2.7 Server Bookmarks

With COLIBRI, you can also contact servers via the internet. You can then browse through the components which are located on these servers, search these servers and even install components from these servers to your local directory (with copy and paste or drag and drop).

2.8 Proxy Server

If your machine is located behind a firewall and you are using a proxy server to connect to the internet, you can specify this proxy and COLIBRI will then contact it. Because COLIBRI uses the HTTP protocol to access its component servers, this should work with any internet proxy server.

To specify a proxy server, choose File→Options and then enter the address of the proxy. (see Firure 6)

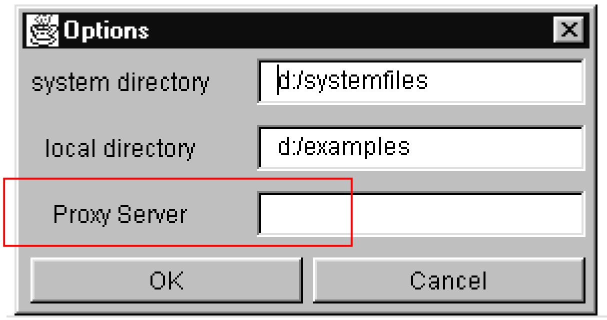

Figure 7: Specify a proxy server if you are behind a firewall

2.9 Versioning

One of COLIBRI 's features is versioning. When saving a component you can choose to raise the version in order to keep the old versions.

Figure 8: Editing the version number

In the save dialog window you can raise (or lower) the version. Use the right buttons if you have made only minor changes and the left buttons for major changes to the component. Please notice that this is only a convention and does not imply any technical consequences.

When there are serveral versions of one component available, these will be displayed in the version choice box. The highest version will usually be selected, but you can also use older versions by highlighting these.

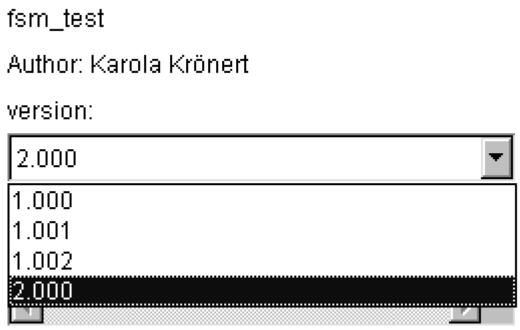

Figure 9: Several available versions of a component are displayed in the version choice box.

2.10 Searching for components in your local directories and in the internet

COLIRBI lets you search for components by keywords. You can either search your local directories or on servers in the internet. Choose the search menu and enter your keywords for the search. Note that COLIBRI will list all components whose description matches any of the words.

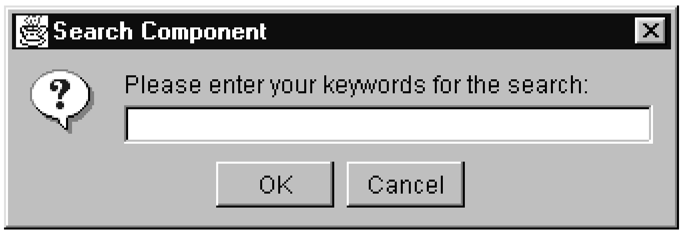

Figure 10: search dialog

The search result will be displayed in the COLIBRI tree below the toplevel search icon .

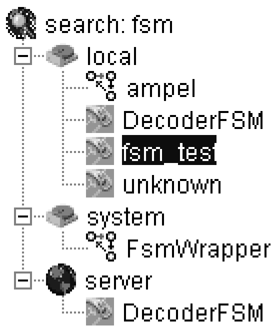

Figure 11: A search result displayed in the tree.

The components displayed in the search result are the same as in the tree, so if you delete a component in the search result, the component will also be deleted in the local directory!

If you do not need the search result any longer you can choose remove from the context menue.

2.11 Installing components from other servers

When you have found a component on a server and you wish to install to your local directory you can do so by either copy and paste or drag and drop.

3 Administration of the COLIBRI Server

The COLIBRI-Server provides the capabilities to publish components via the internet. This includes direct loading, copying for installation, and searching of components. The server uses the http-protocol which allows client to be located behind firewalls. When starting the Server, you must specify the directory of the components you wish to export. Any changes in this directory will not take effect unless you restart the server. You should have a COLIBRI browser installed to be able to manage the server tree. This browser should therefore have the tree directory of the server specified as the local directory. You should make sure that the clb-files of your components contain meaningful descriptions for search results to be successful.

When starting the COLIBRI server you can pass on several parameters.

-h / -help / -?	this option will list all possible parameters
-v	verbose, the server will message all events, this option should only be used for debugging
-port	the port number of your server, the COLIBRI default port number is 1542
-basedir	the base directory of the tree you wish to export
-name	the name of your server

4 Writing Components

You have to specify all files that belong to this component. In the properties window you can add to and remove files from the file list.

You can also specify the icon and the image which will represent the component. The icon will be used in the tree in front of the component and the image will be displayed on the right side of the browser. Please note that you must list the image file in the file list before you can set it as the components image.

If no icon is specified, COLIBRI will look in its icon directory, if it can find an icon which has the name specified in the clb-file of the component. So if you want to specify your own icon, either provide it with the component and put it in the file list or put the corresponding icon in the COLIBRI icon directory („...hades/manager/icons“).

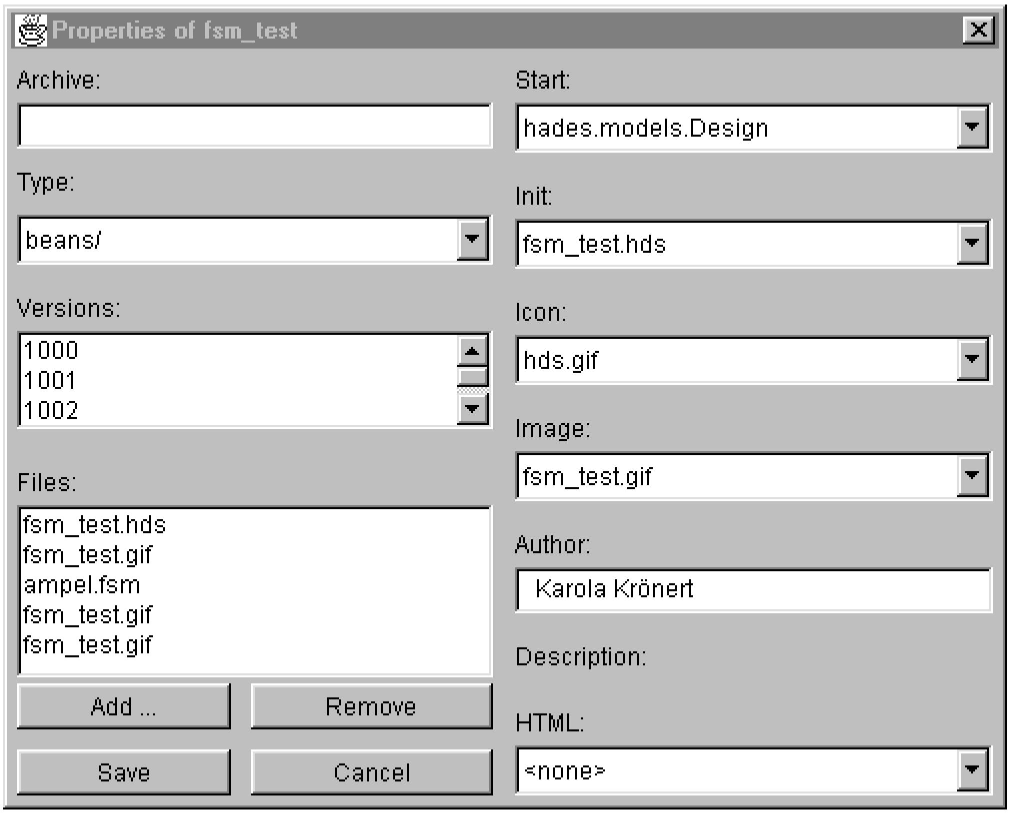

Figure 12: The Properties Window of a component.

5 Using COLIBRI with other Builder Tools

COLIBRI was designed to work together with HADES. But nevertheless it can be used with other builder tools for components as well. Its advantages are the ability for hierarchical libraries, versioning, internet access and HTML documentation,

To use COLBRI with your building tool you should write an adapter class that enables COLIBRI to work together with your editor. Look at the `DesignManager` class, which serves as the adapter for HADES.

In order to be notified of `SelectEvents` you must implement the `SelectListener` Interface. With the Event you will be passed a `URL`. On this `URL` you can call `getContent`() and then receive the component. There are several methods for saving components. They all require a byte array which contains the data to be saved. If you prefer a stream based mechanism you can use the `ColibriOutputStream`, which will convert the stream into a byte array.

6 Frequently asked Questions and Known Bugs

6.1 Known Bugs in COLIBRI

Due to a bug in the JDK concerning class URL, a problem occurs with the help documentation of the COLIBRI . The HTML-window does not follow any links at the moment. You can view the documentation with a normal browser. It is located in the directory „.../hades/manager/html“.

Problem with dialog boxes in Windows 95:
COLIBRI makes use of the Swing JOptionPane class for several dialog boxes. If you leave these boxes open and pop other windows to front, these dialog boxes tend to disappear and as they do not have and icon in the task bar. You can get them back to front if you call the DOS-Shell to front and then minimize it.

Problem with the title of dialog boxes
Swing still has a problem with the titles of the JOptionPane. It may happen, that a dialog box has the wrong title as shown in Figure 12.

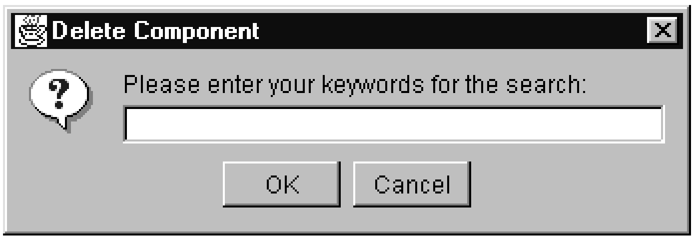

Figure 13: Wrong title in the search dialog box

Problem with the size of dialog boxes
Sometimes dialog boxes using the Swing JOptionPane do not get the required size. If some of the text is missing, you can simply rezise the window.