

Enhydra Enterprise 6.5-1 release notes

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Chapter 1. Introduction

Enhydra Enterprise differs a lot from the previous Enhydra versions. It is an application server which consist of application framework (collection of Java classes, which provide the runtime infrastructure for Enhydra applications) and Enhydra tools used for Enhydra applications developing. It supports servlet 2.4 specification.

Servlet container is not a part of Enhydra any more, but it is needed for running Enhydra applications. Any servlet container that supports servlet 2.3 specification can be used for running Enhydra applications. Two servlet container versions are supported by Enhydra Enterprise distribution: *JOnAS Tomcat* and *JOnAS Jetty*.

Chapter 2. System requirements

The minimum recommended system configuration is:

- 128 MB RAM
- 200 MHz processor or better
- 500 MB disk space (see note below)
- Java Development Kit (JDK) 1.4.x
- JDBC-compliant SQL database for database access

NOTE: The disk space specified above reflects the minimum system requirements to install and run the Enhydra example applications. A minimum installation consists of:

- JDK 1.4.x (approximately 70 MB)
- Enhydra Enterprise (approximately 430 MB)

Chapter 3. What's new in Enhydra Enterprise 6.5-1

This chapter lists the new or updated features associated with Enhydra 6.5-1.

- News and bugs fixing (not in Task list):
 - *IMPORTANT:* To proceed with Enhydra Enterprise installation you are obligate to have either JOnAS-Tomcat or JOnAS-Jetty 'tgz' distribution file present on your local file system (developed on JOnAS 4.5.2 version)!
 - Server Configuration - Enhydra configuration process (ANT based configuration started trough 'configure' script or bach file) now supports a number of interesting and highly functional configuration options:
 - Connector configuration will allow you to enable or disable connector initialization at server startup and to select connector port setting. Existing configuration process supports:
 - non-SSL HTTP Connector
 - SSL HTTP Connector
 - AJP Connector
 - Director Connector
 - Carol configuration will allow you to select protocol port setting. Existing configuration process supports:
 - RMI/JRMP Protocol
 - Admin user configuration:
 - User name
 - Password
- *NOTE:* For further information regarding enhydra server configuration options please consult the 'readme.txt' file placed in '<enhydra_root>/multiserver' directory.
- Windows Setup - changed to allow access to all configuration parameter settings. Additionally, we've implemented optional installation of Tomcat Admin and Manager and Tomcat Demo applications (Tomcat Admin and Demo sections in Enhydra component setup).
- EnhydraIDE:

- we've developed two new EMF/GEF based graphical editors (plug-ins)
 - 'DomlEditor' Eclipse plug-in for DODS "Data-Object-Model" files (.doml), with integrated validation and contents assist support.
 - 'LoaderJobEditor' Eclipse plug-in for Octopus "Loader Job" files (.olj), with integrated validation and contents assist support.
- Enhydra IDE linux distribution is now included in Enhydra Enterprise distribution files (it is not deployed as separate distribution any more).
- Enhydra Documentation
 - now deployed as separate web application (placed in /multi-'`<enhydra_root>`'server/webapps/enhydra-docs' directory)
 - now deployed with runtime distribution also (Enhydra Tools documentation is excluded).
- EnTray:
 - SysTray updated to version 2.4.1
 - *patched windows native implementation*: resolved pop up - screen height problem (known EnTray menu display bug).
 - Refresh Application List - implemented new menu action which refreshes current list of deployed applications
 - For every single Enhydra service defined is realized as separate (service specific) 'Refresh Application List' menu item,
 - Group application list refresh (for all services configured - EnTray multiservice mode) is implemented as left EnTray icon click action.
 - Now supports multiple Service, (SSL and non-SSL) HTML Connector and Host definitions (supported by Tomcat server installation option).
- EAF maintenance - release 6.5-1 is included in this release.
 - New JMX MBean naming.
 - Resolved problem with presentation resource caching.
 - Changed 'MultiClassLoader' initialization.
 - Improved existing 'Container Adapter Session Management' implementation.

For better Tomcat session manager wrapping developed specialized implementation:
com.lutris.appserver.server.sessionContainerAdapter.TomcatContainerAdapterSessionManager

- EnhydraDemos maintenance - release 6.5-1 is included.
- Enhydra Director maintenance - release 6.5-1 is included.
- Octopus maintenance - release 3.4-1 is included.
- DODS maintenance - CVS (12.08.2005.) version included.
- Enhydra Configurator - new enhydra tool for (re)configuration of existing and creation of new (pre-configured) JONAS_BASE instances. For more detail explanation, please, consult enhydra documentation.
- SimpleCacheAdmin - MBean based DODS administration tool included in this release as additional 'Enhydra Administration Application'.
- Enhydra Admin Application - now modified to allow overview of all MBeans registered to MBean Server (including Attribute change and Operation invocation). Additionally, we've implemented application authentication support (FORM authentication model).
- Enhydra Debugger - 'Intro' presentation object now modified to support multiple request schemes. Host and port URL attribute initialization was based on static configuration parameters also (application configuration parameters) and now are dynamically resumed from application request.
- Apache Axis maintenance - release 1.2.1 is included.
- Enhydra PIM - Integrated new, enhydra application that demonstrate use of DODS xaTransaintions implementation inside JTA context.
- Enhydra PIM EJB - Integrated new, enhydra application that demonstrate use of DODS xaTransaintions implementation inside JTA-EJB context.

Chapter 4. What's new in Enhydra Enterprise 6.3-1

This chapter lists the new or updated features associated with Enhydra 6.3-1.

- News and bugs fixing (not in Task list):
 - *IMPORTANT*: To proceed with Enhydra Enterprise installation you are obligate to have either JOnAS-Tomcat or JOnAS-Jetty 'tgz' distribution file present on your local file system (developed on JOnAS 4.3.4 version)!
 - Enhydra Director maintenance - release 6.3-1 is included in this release.
 - New "Rebalancing" mechanism – to support web server (Director) clustering (parallelism).
 - DODS maintenance - release 6.3-1 is included in this release.
 - Java 5 compatible
 - New implementation of StandardConnectionAllocator and DataSourceConnectionAllocator.
 - Several other fixes and enhancements.
 - Octopus maintenance - release 3.3-1 is included.
 - EAF maintenance - release 6.3-1 is included in this release.
 - New JMX MBean model implemented.
 - EnhydraDemos maintenance - release 6.3-1 is included.
 - New application pair integrated:
 - tableApp: Axis Server (as Enhydra application) which returns 'Document' object as result of axis request.
 - tableAppClient: Axis client which presents 'Node' object extracted from 'Document' object received.
 - Windows Setup - Developed silent installation support.
 - *IMPORTANT NOTE* - To make Enhydra-Connector fully functional for JOnAS-Jetty distribution option we had to patch Jetty's 'org.mortbay.jetty.servlet.AbstractSessionManager' class.

During creation of new Session object, AbstractSessionManager generates session ID by using 'HttpServletRequest.getRequestSessionId()' method call only if that session ID exist in global session ID Map. To make Enhydra Director functional, session ID must be 32 characters long and to end with (Enhydra Director) specific tag. This way, existing implementation of Abstract-

SessionManager doesn't leave possibility of session creation with predefined IDs. With our patch we enabled (back to previous versions) the session creation with 'HttpServletRequest.getRequestSessionId()' even when session ID doesn't exist in global ID Map.

- Toolbox - Enhydra Appwizard changed: Enhydra Application is default one now (instead of Web Application).
- Known Bugs:
 - EnTray - We've noticed some problems with EnTray menu display in situations when menu height (depending on number of entries) is similar to Screen height. In situations like this, workaround would be to remove one of deployed applications or to deploy another application in which case menu navigation arrows will be displayed.

Chapter 5. What's new in Enhydra Enterprise 6.2-2

This chapter lists the new or updated features associated with Enhydra 6.2-2.

- News and bugs fixing (not in Task list):
 - *IMPORTANT*: Since this release Enhydra Enterprise doesn't package JOnAS distribution file. Therefore, to proceed with Enhydra Enterprise installation you are obligated to have either JOnAS-Tomcat or JOnAS-Jetty 'tgz' distribution file present on your local file system (developed on JOnAS 4.3.2 version)!
 - EnhydraDirector (EnhydraConnector) maintenance - release 6.2-2 is included in this release.
 - DODS maintenance - release 6.2-2 is included in this release.
 - Octopus maintenance - release 3.2-2 is included in this release.
 - EAF maintenance - release 6.2-2 is included in this release.
 - EnhydraDemos maintenance - release 6.2-2 is included in this release.
 - XMLC maintenance - release 2.2.6 is included in this release.
 - EnhydraIDE:
 - Vex maintenance - version 1.1.1 included in this release.
 - Converter - new enhydra module that enables automatic configuration conversion from CONF to XML configuration file. Basically, it is 'web.xml' generation (based on application CONF configuration file) tool.
 - Windows Setup - During uninstallation process removal of Enhydra elements from LOCAL MACHINE - Path environment variable used to invoke corruption of Path environment variable (bug fix in uninstallation process).
 - *IMPORTANT NOTE* - Enhydra updates JOnASs 'org.objectweb.jonas.jmx.JmxServiceImpl' class (to CVS version 28.02.2005.). We had naming problems during registration of our (Enhydra) SPI implementation with originally existing code.
 - *IMPORTANT NOTE* - To make Enhydra-Connector fully functional for JOnAS-Jetty distribution option we had to patch Jetty's 'org.mortbay.jetty.servlet.AbstractSessionManager' class.

During creation of new Session object, AbstractSessionManager generates session ID by using 'HttpServletRequest.getRequestSessionId()' method call only if that session ID exist in global session ID Map. To make Enhydra Director functional, session ID must be 32 characters long and to end with (Enhydra Director) specific tag. This way, existing implementation of AbstractSessionManager doesn't leave possibility of session creation with predefined IDs. With our patch we enabled (back to previous versions) the session creation with 'HttpServletRequest.getRequestSessionId()' even when session ID doesn't exist in global ID Map.

- Known Bugs:
 - JOnAS-Jetty 4.3.2 release - during server shutdown some servlets don't receive 'destroy' method call. That is the reason of irregular application shutdown which for applications that use HSQL databases results with inappropriate HSQL server shutdown (data loss). This problem persists only when enhydra JOnAS-Jetty binary distribution is used during Enhydra Enterprise installation.

Chapter 6. What's new in Enhydra Enterprise 6.0-1

This chapter lists the new or updated features associated with Enhydra 6.0-1.

- (Task Id: 1918) Integrated all implementation changes from Enhydra 5.1-16 (since Enhydra 5.1-1)
- News and bugs fixing (not in Task list):
 - New setup for Enhydra-Enterprise (Components Setup) - Change or Remove (Add/Remove Programs option) installed configuration!
 - New, modular, Enhydra distribution structure:
 - demos-source - sources of all enhydra demo applications
 - conductor - EnhydraConductor
 - entray - Enhydra EnTray
 - ide - EnhydraIDE
 - multiserver - Enhydra Server
 - Development and runtime distributions for both Enhydra-Enterprise-Tomcat and Enhydra-Enterprise-Jetty (Windows and Linux).
 - New modular DODS release 6.0 - included in this Enhydra Server release.
 - EnTray - bug fix which implements JMXConnector closure (potential memory leak).
 - SessionViewer - Integrated new, administration, enhydra application (for Tomcat release only). Small Enhydra application which enables overview of active session parameters.
 - Debugger - Integrated new, administration, enhydra application (for Tomcat release only). Small Enhydra application integrated with purpose to make application debug process easier.
 - In EnhydraIDE (Eclipse 3.0 with integrated Enhydra Kelp) integrated four, more than useful, plugins:
 - Lomboz (Build-07222004) - eclipse plug-in for J2EE developers by extending eclipse JDT.
 - SQLExplorer (version 2.2.2) - visual database design/query tool.
 - Vex (version 1.0.0) - A Visual Editor for XML.
 - JOPE (version 1.1.4) - JOnAS plugin for Eclipse.
 - JOnAS (Tomcat and Jetty) updated to version 4.1.2

- JIVAN updated to version 1.0.0
- XMLC updated to version 2.2.5 (public release)
- FopApplet - On some browsers there was a problem with applet loading which is resolved in new version.
- enhydraFlash - application had a Flash loading problem which is resolved now.

Chapter 7. What's new in Enhydra Enterprise 6.0-beta1

This chapter lists the new or updated features associated with Enhydra 6.0-beta1.

- (Task Id: 471) Enhydra is completely independent from DODS during compile/build and runtime. So if DODS is not used we do not need the jars. File "eaf_api.jar" contains only Database manager API (interfaces and exceptions).
- (Task Id: 474, 1316, 1357) New Admin application and cacheAdmin integration, based on JMX.
- (Task Id: 649) JDDI support is removed.
- (Task Id: 955) Completely new EnTray application written. It's now Java application and talks to Enhydra 6 through JMX (uses MX4J).
- (Task Id: 1057) Windows source exe file for Enhydra 6.0 release are created using 7-Zip ver. 3.11 file archiver, with -sfx (Create SFX archive) switch.
- (Task Id: 1361, 1369) New improved installation : Selection of http port, userid / password entry, service name, Multilanguage support, Enhydra splash screen on startup, Enhydra header image on each page, Finish page with appropriate options, Add options for manual choosing folder, which will be set as JAVA_HOME directory, Start Enhydra server as Windows system service.
- (Task Id: 1367) Installation of Enhydra Conductor (MOD JK2 for Apache 2 or IIS web server) is being automatically started after finished enhydra installation (Windows). Installation of MOD JK2 for Apache 2 is provided for RedHat 9 as separated rpm package.
- (Task Id: 1372) MBeans which reads size of PO and resources caches are implemented. These values are shown in new EnhydraAdmin application.
- (Task Id: 1526) Comment: Some MBeans are implemented in Enhydra6.0. All configuration file entries are accessible and visible through them and jmx administration application. The Mbeans communicate with Enhydra application via notifications. The changes can be saved back to the configuration file.
- (Task Id: 1531) Enhydra uses JNDI for reading application parameters. Created services providers for .conf and unpacked web.xml files. Datasource for an application can be entered in JOnAS Admin. More information in Enhydra6.0 configuration documentation.
- (Task Id: 1533) Monolog implementation for EAF logging are included in EAF (Enhydra Application Framework)
- (Task Id: 1603) EAF jars (all of them) are installed (Enhydra 6.0) in lib/ext (all jars in subordinate directories will also be loaded) directory and are shared between all applications.
- Changed design of html and pdf document files. Pached stylesheets put in seperate directory.
- (Task Id: 1794) Included new Zeus GUI application.
- (Task Id: 1527) Documentation for new APIs and configurations (Session, Configuration, Logging and DatabaseManager) with sample configurations is included.

- (Task Id: 1065) Jivan project is included. Simple example of using jivan in enhydra application is provided.
- (Task Id: 1645) Integrate Eclipse + Kelp for Eclipse in dev version - integrated Eclipse 3.0 (with integrated Kelp) which installation is automatically started after finished enhydra installation (Windows).
- (Task Id: 1427) Docbook is a part of Enhydra binary distribution development.
- (Task Id: 1600) PiggyBank EJOSA sample application (with DODS based data layer) include as Enhydra sample application.
- (Task Id: 1542) GolfShop (Enhydra Demo Application) session problem resolved.
- News and bugs fixing (not in Task list):
 - Enhydra6.0 distribution now includes (additional) binary distribution files. Binary, Enhydra6.0, distribution is completely configurable through configure batch/shell script file (placed in enhy-<dra_source>/enhydra directory). For further information's about configuration (parameter options), please, consult 'readme.txt' file placed in root directory of Enhydra6.0 binary distribution (<enhydra_source>).
 - Implemented extension of Tomcat's FileLogger. Now all logging goes through Monolog (including Tomcat's).
 - JOnAS 4.1 (Tomcat and Jetty) binary files included in Enhydra's source.
 - EnhydraAdmin application - included source files in Enhydra's source.

Chapter 8. Enhydra Enterprise 6.0-beta1 Release

This chapter lists the features associated with Enhydra 6.0-beta1

Server side

Servlet container is not a part of Enhydra any more, but it is needed for running Enhydra applications. Any servlet container that supports servlet 2.3 specification can be used for running Enhydra applications. Two server container options are included with Enhydra distributions: *JOnAS Tomcat* and/or *JOnAS Jetty*. The documentation for this release is located in

```
<enhydra_root>/doc/index.html
```

Why JOnAS 4.1 Release?

JOnAS is a pure Java, open source, application server conforming to the J2EE specification. However, its high modularity allows to it to be used as

- a J2EE server, for deploying and running EAR applications (i.e. applications composed of both web and ejb components),
- an EJB container, for deploying and running EJB components (e.g. for applications without web interfaces or when using JSP/Servlet engines that are not integrated as a JOnAS J2EE container),
- a Web container, for deploying and running JSPs and Servlets (e.g. for applications without EJB components).

Enhydra Tools

Enhydra Tools are used for developing Enhydra Applications. The following tools are included:

- DODS 5.1-10 release.
- Octopus 2.8 release.
- Barracuda 1.2.6 release.

- XMLC 2.2.5 (CVS version - date 25.02.2004.).
- Ant 1.5.4 release.
- AntContrib 1.5.2 release.
- Zeus 3.5 release.
- Soap 2.3.1 release.
- gnu.regexp 1.1.4 release.
- DocBook stylesheets 1.61.3 release.
- Cactus 1.4.1 release.
- Jalopy 1.0 Beta 10 release.
- JDepend 2.7 release.
- Jakarta ORO 2.0.8 release.
- Quartz Scheduler 1.3.4 release.
- JUnitDoclet 1.0.2 release.

Enhydra Applications

Enhydra application is a servlet that can be served to the Net by different servlet containers (JOnAS Tomcat, JOnAS Jetty,...), or it can be installed in any Servlet-capable Web server.

In Enhydra, there are the following applications:

XalanDoc (url <http://localhost:9000/XalanDoc>) - demonstration application that uses XML file as data source.

AirSent (url <http://localhost:9000/AirSent>) - demonstration application for querying, inserting, deleting and updating a tables. It uses enhydra DODS.

ImapWeb (url <http://localhost:9000/ImapWeb>) - sample enhydra application that represents IMAP mail client.

SimpleVXML (url <http://localhost:9000/SimpleVXML>) - simple Voice-XML application.

The Poker Application (url <http://localhost:9000/Poker>) - simulation of a poker; it can use database. By default, it doesn't use database, but, if uses, the default database is HSQL

The DiscRack Application (url <http://localhost:9000/discRack>) - demonstration application for querying, inserting, deleting and updating a list of Persons and their Discs in a database. It uses enhydra DODS. The default database is HSQL.

The TransactionsDiscRack Application demonstration application for querying, inserting, deleting and updating a list of Persons and their discs in a database. It uses enhydra DODS and it's new transaction features. The default database is HSQL.

The Multibase Enhydra Demo Application (url <http://localhost:9000/multibase>) - demonstration application for querying, inserting, deleting and updating tables in case of simultaneous using multiple databases in same application. It uses enhydra DODS.

The Calculator Application (url <http://localhost:9000/calculator>) - little application that simulates a simple calculator.

BarracudaDiscRack (url <http://localhost:9000/BarracudaDiscRack>) - example of using Barracuda in Enhydra application.

BarracudaConfig (url <http://localhost:9000/BarracudaConfig>) - serves a twofold purpose. You can actually use it to configure a running Barracuda system (nice!), but it also provides a great example of how to combine components, events, forms, and localization all in one app (even better!).

The PhoneBook Application (url <http://localhost:9000/phoneBook>) - demonstration application for querying and updating a list of phone numbers in a database. It has been tested with Informix, Oracle, InstantDB and HSQL databases. The default database is HSQL.

The PhoneBookClient Application (url <http://localhost:9000/phoneBookClient>) - dThis is a demonstration client application for PhoneBook's Axis server.

The Project Management Application (url <http://localhost:9000/projectManagement>) - application whose primary use should be evidencing of working hours of employees within some organization. It holds the data of employees, customers, projects, pay rates and finally, the working hours.

The GolfShop Application (url <http://localhost:9000/GolfShop>) - Web shopping cart application used to support on-line Golf Store shopping Experience.

The Chat Application (url <http://localhost:9000/chat>) - chat room application; it uses a special algorithm to achieve the effects of push technology using standard HTTP. Messages the user sends appear immediately.

The CGIRunner Application (url <http://localhost:9000/CGIRunner>) - simple CGIServlet sample. It starts "run.bat" file which displays (on STDOUTPUT) the set of environment variables that is transferred to executable.

The SnoopServlet Application (url <http://localhost:9000/SnoopServlet>) - servlet that shows the data sent by the client.

The FileServlet Application (url <http://localhost:9000/FileServlet>) - simple FileServerServlet sample - serves static HTML page.

The JarServlet Application (url <http://localhost:9000/JarServlet>) - simple JarServerServlet sample - serves static HTML page from application jar file.

The Welcome Application (url <http://localhost:9000/Welcome>) - simple "hello world" test application.

CactusForEnhydra (url <http://localhost:9000/CactusForEnhydra>) - enhydra testing framework using Jakarta Cactus.

FopApplet (url <http://localhost:9000/FopApplet>) - used to create PDF file from the input sources that are XSL:FO formatted. These input sources can be one of: FO parameter (path to a FO file), or XML+XSL parameters (paths to XML and XSL files)

The EnhydraFlash (url <http://localhost:9000/enhydraFlash>) - example of using Flash animation in enhydra application.

The JivanExample (url <http://localhost:9000/JivanExample>) - example of using Jivan which has its own way of DOM parsing and DOM processing in a way to create dynamic HTML page used as users http re-

sponse.

The PiggyBank (url *http://localhost:9000/PiggyBank*) - simple example showing the application of EJOSA Templates.

NOTE: We are assuming that Enhydra 6.0 is installed with default connection port setting (9000).

Known problems

- Ant 1.6 - Main class changed

Due to change of ant's main class name (the name was `org.apache.tools.ant.Main`), all task definitions and bat files which explicitly use this class will not work.

- Applications with Macromedia Flash animation - Redirection

We still have problems with redirection inside animations.

Chapter 9. Installation, platform, and system information

These release notes apply to Enhydra 6.0-beta1.

Installation

- Enhydra 6.0 is a complete release, and should not be installed over an existing Enhydra installation.
- Source code for building installations is included in source distribution.

Platform support

Through the open-source development process, Enhydra has been used on a wide variety of platforms and with many different JDBC-supported databases.

Databases

- Oracle8i with the Oracle JDBC Driver
- PostgreSQL 7.0.2 with the PostgreSQL JDBC Driver
- Microsoft SQL Server 7.0 and 2000 on NT Server, and 2000 with the JTurbo 2.0 JDBC Driver
- InstantDB
- MySQL
- McKoi
- DB2
- PostgreSQL
- Sysbase

- Informix
- HSQL
- QED
- HypersonicSQL

JDKs

Sun JDK 1.4.x on Windows NT, 2000 & XP, Linux, Solaris

Chapter 10. Documentation

The documentation for this release is located in

```
<enhydra_root>/enhydra/doc/index.html
```

Documentation is written in XML format and transformed in HTML and PDF with DocBook templates, version 1.61.3.