

Installing Rhythmyx

INSTALLING RHYTHMYX	1
RHYTHMYX COMPONENTS	2
SERVER SYSTEM REQUIREMENTS.....	2
DEVELOPER TOOLS SYSTEM REQUIREMENTS.....	3
RHYTHMYX PUBLISHER SYSTEM REQUIREMENTS.....	3
RHYTHMYX FULL-TEXT SEARCH ENGINE REQUIREMENTS.....	3
<i>Installation Options for the Full-text Search Engine</i>	3
<i>Moving the Full-text Search Engine to a Different Machine</i>	6
DESKTOP CLIENT COMPONENTS	7
REPOSITORY DATABASE REQUIREMENTS	8
INSTALLATION PREREQUISITES	9
PREREQUISITES FOR INSTALLATION TO UNIX ENVIRONMENTS.....	9
PREREQUISITES FOR INSTALLATION TO LINUX ENVIRONMENTS.....	9
PREREQUISITES FOR THE SPRINTA DRIVER FOR MS SQL SERVER.....	9
PREREQUISITES FOR IBM DB2 (UDB).....	10
PREREQUISITES FOR UPGRADE FROM RHYTHMYX VERSION 5.7 AND EARLIER.....	10
INSTALLATION ORDER	11
STARTING INSTALLATIONS	11
INSTALLING REMOTE CLIENT COMPONENTS.....	12
INSTALLATION FLOW CHARTS	13
GENERAL INSTALLATION SEQUENCE	16
INDEXING FULL-TEXT SEARCH.....	46
ADDITIONAL PROCEDURES FOR UPGRADE FROM RHYTHMYX VERSION 5.7 AND EARLIER.....	46
IMPORTANT SECURITY MEASURES	47
ASSIGNING NEW PASSWORDS TO DEFAULT USERS	47
REPLACING THE DEFAULT USERS WITH NEW USERS.....	47
RHYTHMYX WORKBENCH OPTIONS	48
INSTALLING THE RHYTHMYX SAMPLE APPLICATION PACKAGE	49
ADDING REQUIRED ROLES TO THE RHYTHMYX SERVER.....	49
PERCUSSION TECHNICAL SUPPORT	50

Rhythmyx Components

Rhythmyx includes the following components:

Repository Database

Server, including Publishing System

The following remote components:

- Developer Tools
- Remote Publishers
- Multi-server Manager

In a Windows environment all components can be installed. In a UNIX environment you can only install the Repository Database, the Server, and the remote Publishers.

Server System Requirements

The Rhythmyx Server can be installed in the following environments:

Sun Solaris 9 or 10

	Development Server	Production Server
Processor	1 GHz	2GHz
RAM	512 MB	1 GB
Disk Space	750 MB	1 GB (plus additional space for application data)

Microsoft Windows 2000 (Professional, Advanced Server, and Datacenter Server), Windows 2003 Server and Advanced Server, Windows XP

	Development Server	Production Server
Processor	1 GHz	2GHz
RAM	512 MB	1 GB
Disk Space	750 MB	1 GB (plus additional space for application data)

Linux (Certified on Red Hat Linux AS 3.0 and 4.0; Other distributions supported; Linux OS certified on Intel-based hardware.)

	Development Server	Production Server
Processor	1 GHz	2GHz
RAM	512 MB	1 GB
Disk Space	750 MB	1 GB (plus additional space for application data)

The Rhythmyx server supports the following web servers:

Microsoft IIS version 4.0

Netscape 4.0

Apache 1.311

Developer Tools System Requirements

The Developer Tools can only be installed in a Windows environment, including:

Windows 2000
Windows XP Professional 2003 (NOTE: Note currently certified on Windows XP Service Pack 2)
Windows 2003 Server platform

Hardware Requirements:

Processor Pentium IV or faster 1 GHz
RAM 1 GB or greater recommended
Disk Space 350 MB to run installed product (500 MB during installation)

Rhythmyx Publisher System Requirements

The Publisher can be installed in all environments supported by the Rhythmyx server.

Hardware Requirements:

Processor: 1 GHz
RAM 512 MB
Disk Space Minimum 100 MB to run installed product

Rhythmyx Full-text Search Engine Requirements

The full-text search engine is an optional component. The server does not require the component. If the full-text search engine is not installed, an alternative, light-weight database search engine is provided. The full-text search engine can be deployed to the same machine as the Rhythmyx server, or to a different machine if desired.

The full-text search engine runs in the same operating systems as the Rhythmyx server.

Hardware Requirements:

RAM co-located with the Rhythmyx server: 512 MB minimum in addition to the basic RAM of the the Rhythmyx server, 1 GB in addition to the basic RAM recommended; on remote machines, 512 MB minimum; 1 GB recommended.
Disk Space 256 MB minimum; 1 GB recommended

Software Requirements:

Solaris/Linux The following libraries are required on Solaris and Linus systems:

libX11.so.4
libXext.so.0

These libraries are available with the XWindows interface, but may not be installed on systems that do not include XWindows (“headless systems”). If your Rhythmyx server resides on a machine that does not run XWindows, copy them from another system that does.

Installation Options for the Full-text Search Engine

The Rhythmyx full-text search engine is typically installed on the same machine as the Rhythmyx server. However, you may want to install the search engine on a different machine if the demands of running both servers on the same machine degrades the performance of either (or both). You can choose to move both the search engine and search indices to a different machine, or move either independently.

Note that if you deploy the search engine server or indices (or both) to a separate machine, you must share or export the directory where the full-text search indices reside and map or mount this directory on the machine where the Rhythmyx server resides. The following topics discuss deployment options for the full-text search engine and indices.

Note that a prerequisite for all installations is copying the full-text search installer from the Rhythmyx CD-ROM to your local machine.

NOTE: Remote installs are currently being refactored. Only the installations of the full-text search engine on the same machine as the Rhythmyx server work

New Install (Both Servers on the Same Machine)

No special preparation is necessary for this installation. Install normally and accept the defaults.

New Install (Full-text Search Engine on a Different Machine)

Before starting this installation process, you will want to know the name of the directory on the remote machine where you want to install the search engine. You may want to create the directories on both the Rhythmyx server machine and the remote machine where you plan on installing the full-text search engine before beginning the installation. You may also want to give this directory a different name (such as RhythmyxF^TS) so you can distinguish it easily from your Rhythmyx server installation directory.

You should also determine which ports you will use for the search service or daemon on the remote machine. The search engine process uses three ports, which are generally numbered sequentially. The first port is the port on which the search engine will listen for search and index requests. The second port is used internally by the search engine. The third port is the port on which the search engine service or daemon listens for requests to initiate from the Rhythmyx server. The default value for the first port is the port of the Rhythmyx server plus 1 (9993 when using the default Rhythmyx port).

Installing the full-text search engine on a different machine from the Rhythmyx server is a two-step process. In one step, you will install the Rhythmyx server to its target machine. In the other step, you will install the search engine to its machine. The order of installation does not necessarily matter, but you will not be able to start the Rhythmyx server until the remote search engine is installed and running.

When installing the Rhythmyx server:

- On the Select Products to Install dialog, check the Full Text Search checkbox. You must check this box to enable the server to recognize that full-text search is available, even if it is installed on a remote machine. The install wizard will also display the Full Text Search Settings dialog, allowing you to define the initial search configuration.
- When you reach the Rhythmyx Full Text Search Settings of the installation wizard:
 - in the Full Text Search Engine host name field, enter the name or IP address of the machine where you want to install the full-text search engine.
 - in the Full Text Search Engine Install Location field, enter the fully-qualified directory on the remote machine where you want to install the full-text search engine (for example, C:\RhythmyxF^TS\F^TS).
 - enter the Search and Index Port Number. The default port number is your Rhythmyx port plus 1 (9993 if you use the default Rhythmyx port).
- DO NOT start the Rhythmyx server until you have completed the installation of the remote search engine.

To install the full-text search engine, run the standard Rhythmyx installer (not the Publisher or Content Connector only installers) on the remote machine:

- On the Installation Directory dialog, specify the directory where you want to install the search engine. The default directory is C:\Rhythmyx. Change this value if you want to use a different directory.
- On the Select a Product to Install dialog, deselect all options EXCEPT Full Text Search Engine.
- On the Rhythmyx Full Text Search Settings dialog:
 - The value in the Full Text Search Engine host name field defaults to localhost. You can keep this value, or use the name or IP address of the machine where you are installing the full-text search engine.
 - The value of the Full Text Search Target Install Location defaults to C:\Rhythmyx\sys_search. If you want to install the search engine to a different directory, change this value. Note that the location must end with sys_search.
 - The Search and index port number defaults to 9993; if you want to use a different value, enter it here.

When this installation is complete, start the full-text search engine service/daemon. Once the full-text search engine service/daemon is running, start the Rhythmyx server.

Troubleshooting New Installs of Rhythmyx with the Full Text Search Engine on a Different Machine

Problem: The Rhythmyx server fails with the following message:

```
Server          7/7/04 2:55 PM: A non-recoverable error has
been encountered. The server is shutting down.
```

```
Server          7/7/04 2:55 PM: An unexpected error was
encountered.
com.percussion.search.PSSearchException: Connection to remote
process          : manager at
'SEARCHSERVER:9995' failed: Connection refused: connect
```

Solution: Confirm that the remote search engine process manager daemon has been started. When the remote search engine process manager daemon has been started, you should see a terminal window or DOS window with the following message: **Rhythmyx Process Daemon is listening on port 9995**. When you initially install the remote search engine, you must start it manually. After that, it should start automatically whenever you reboot the machine.

Confirm that your port configurations are correct on the Rhythmyx server. In the Rhythmyx configuration XML file (<Rhythmyxroot>\rxconfig\Server\config.xml), check the PSXSearchConfig node. The value of the serverPort attribute of this node should match the value of the procenv.PORT property in <searchengineeroot>\rxconfig\server\procd daemon.properties. The value of the <Property> child node with the name=daemonport attribute should match the value of the port property in <searchengineeroot>\rxconfig\server\procd daemon.properties (this property is preceded by the comment "Port on which the daemon listens).

Check the DNS cache for multiple entries of the machine on which the remote search engine process manager is running.

Moving the Full-text Search Engine to a Different Machine

After running your production CMS for some time, you may decide that the performance of your system is not acceptable with both the Rhythmyx server and the full-text search engine on the same machine. To remedy this problem, move the full-text search engine to a different machine. After moving the search engine, you will need to re-index your content, so you should schedule the move in the evening or on a weekend, when server use is low. To move the full-text search engine:

1. On the machine where you intend to run the full-text search engine, create the directory where you intend to install the search engine. Decide which port you want to use to connect to the Rhythmyx server.
2. Install the full-text search engine to the directory you created in step 1. When running this installation:
 - On the Select a Product to Install dialog, deselect all options EXCEPT Full Text Search Engine.
 - When you reach the Rhythmyx Full Text Search Settings of the installation wizard:
 - in the Full Text Search Engine host name field, leave the value as localhost.
 - the Full Text Search Engine Install Location field defaults to the installation you specified for the installation. Do not change this value.
 - The value in the Search and Index Port Number field defaults to 9993; if you want to use a different port, change the value to the port you want to use.
3. Start the Rhythmyx server (if it is not already running) and start the Server Administrator. Choose the Search tab so you can modify the search configuration.
 - Change the value in the Server field from localhost to the name or IP address of the machine on which you installed the full-text search engine.
 - Change the value of the Configuration Directory field to the configuration subdirectory of the directory where you installed the full-text search engine on the remote machine. The path to the configuration directory is `<ftsroot>\sys_search\rware\rx\config`. For example, if you installed the full-text search engine to C:\RXFTS, the path would be `C:\RXFTS\sys_search\rware\rx\config`.
 - Change the value in the Port field to match the port you specified when you installed the full-text search engine on the remote machine.
 - In the Custom Properties, change the value of the daemonport property from -1 to the Search and Index Port you specified on the remote machine +2 (in other words, if you used the default value for the Search and Index Port, 9993, you would change the value of the daemonport to 9995. (If the value of this field is -1, the Rhythmyx server looks for the search engine locally on the default port. If this field has any other value, Rhythmyx looks for a remote search engine on the machine specified using the port specified.)
4. Stop the Rhythmyx server.
5. Start the remote search engine process daemon.
6. Restart the Rhythmyx server.

The Rhythmyx server will connect to the remote search engine. You will need to re-index your content using the new full-text search engine installation. This process can take a considerable amount of time, so it is recommended that you plan your change over in the evening or on a weekend when server activity is low.

The command to re-index the content is:

```
search index type (###)
```

where ### is the ID of the content type you want to re-index. If you want to re-index all content, do not include this value.

Troubleshooting Rhythmyx after Porting the Search Engine to a Different Machine

Problem: The Rhythmyx server fails with the following message:

```
Server          7/7/04 2:55 PM: A non-recoverable error has
been encountered. The server is shutting down.
```

```
Server          7/7/04 2:55 PM: An unexpected error was
encountered.
com.percussion.search.PSSearchException: Connection to remote
process          : manager at
'SEARCHSERVER:9995' failed: Connection refused: connect
```

Solution: Confirm that the remote search engine process manager daemon has been started. When the remote search engine process manager daemon has been started, you should see a terminal window or DOS window with the following message: **Rhythmyx Process Daemon is listening on port 9995**. When you initially install the remote search engine, you must start it manually. After that, it should start automatically whenever you reboot the machine.

Confirm that your port configurations are correct on the Rhythmyx server. In the Rhythmyx configuration XML file (<Rhythmyxroot>\rxconfig\Server\config.xml), check the PSXSearchConfig node. The value of the serverPort attribute of this node should match the value of the procenv.PORT property in <searchengineeroot>\rxconfig\server\procd daemon.properties. The value of the <Property> child node with the name=daemonport attribute should match the value of the port property in <searchengineeroot>\rxconfig\server\procd daemon.properties (this property is preceded by the comment “Port on which the daemon listens”).

Check the DNS cache for multiple entries of the machine on which the remote search engine process manager is running.

Desktop Client Components

Rhythmyx supports the following browsers for content maintenance, publishing, workflow, and system administration:

- Internet Explorer V. 6.0 (Windows)
- Mozilla Firefox V 1.0 and 1.5 (Windows)
- Safari 1.02 (Apple OS/X 10.3)

The Sun Microsystems Java browser plugin Version 1.5_07 is required for all users that employ the Content Explorer applet.

Repository Database Requirements

Before installing any Rhythmyx components, be sure you have a relational database management system installed. Rhythmyx currently supports:

RDBMS	Versions Supported
Oracle	9.2i, 10g
	NOTE: When installing the Repository to Oracle 10g, the installation user must have CONNECT and RESOURCE privileges.
MS SQL Server	MS SQL Server 2000 and 2005
	NOTE: If the database is installed on a machine running Windows XP SP2 as the operating system, you must use SQL Server 2000 with Service Pack 3
DB2 (UDB)	8.2 and 9.0

Note that Rhythmyx does not perform any escaping or character conversion when inserting characters into the database. Therefore, the character encoding of the underlying database character set should match the encoding of the characters you want to store in the Repository. If the encoding of the database does not match the encoding used in Rhythmyx, some functionality may be lost. For example, if you use Microsoft Word as a Content Editor and Oracle as your database, Word SmartQuotes might not work if your database uses a character set other than UTF-8.

Percussion Software makes the following recommendations:

- Use UTF-8 if the majority of the characters you use match the ASCII character set. This is the recommended option for Western languages.
- Use UTF-16 if the majority of the characters you use fall outside of the ASCII character set. This is the recommended option for most Asian languages.

Non-Unicode character sets are not recommended for Rhythmyx.

When defining `PSXBackEndCredential` objects in the Credentials area, use the following syntax for the `serverName` entries:

Driver	Syntax	Sample
Oracle	@<server>:<port>:<SID>	@38.164.160.36:1521:ORCL
TDS	<://server[:port]>	//dbserver //dbserver:1400
UDB	jdbc:db2://server<:port>/<database>	jdbc:db2://DB2Host:50000/rxmaster

Installation Prerequisites

Before beginning installation, be sure to implement the following prerequisites.

Prerequisites for Installation to Unix Environments

Before installing to a Unix environment, you will need to create a user to install and run Rhythmyx. If you run multiple instances of the Rhythmyx server, you must create a user for each instance.

You must install Rhythmyx from the root of the user's directory.

Prerequisites for Installation to Linux Environments

Before installing to a Linux environment, you will need to create a user to install and run Rhythmyx. If you run multiple instances of the Rhythmyx server, you must create a user for each instance.

You must install Rhythmyx from the root of the user's directory.

Before installing to Red Hat AS, download and install G++ compatibility packages required by Rhythmyx. These packages are available from Red Hat ([rh.n.redhat.com](http://rhn.redhat.com)) or from rpmfind.net. The following packages are required:

- `compat-gcc-c++-7.3-2.96`
- `compat-gcc-7.3-2.96`
- `compat-libstdc++-devel-7.3-2.96`
- `compat-libstdc++-7.3-2.96`
- `compat-glibc-7.x-2.2.4`

You should use the latest build of each package, but ensure that the build numbers of all packages match.

Prerequisites for the Sprinta Driver for MS SQL Server

NOTE: The Sprinta driver is deprecated in Rhythmyx 5.5; the SQL Server driver used in Version 5.5 is the JTDS driver. The following information is provided for backwards compatibility for customers using Rhythmyx Version 5.01 and earlier. Customers still using Sprinta are urged to contact Percussion Software Technical Support to discuss migrating to the JTDS driver.

If you are using the Sprinta driver in Microsoft Windows you do not need to create a DSN before installing Rhythmyx components. The Sprinta driver is licensed for the Rhythmyx Server only. Any use of the Sprinta driver other than through the Rhythmyx Server is a violation of the Sprinta license. All questions related to the Sprinta driver should be directed to Percussion Technical Support. The readme and license for the Sprinta driver are in the JDBC/Sprinta directory (`..Rhythmyx/JDBC/Sprinta`).

Prerequisites for IBM DB2 (UDB)

When installing Rhythmyx, the installer requires tablespace with a page size of at least 8K. Smaller page sizes may result in installation errors. Create a bufferpool, tablespace, and temporary tablespace with a pagesize of at least 8K before installing Rhythmyx and grant appropriate privileges on these tablespaces to the userID that will be used to install the repository.

To create the required tablespace:

1. In Windows, open the DB2 Command Line Processor; in Unix, open a terminal window and enter *db2*.
2. Connect to the database.
3. Create a bufferpool: enter `CREATE BUFFERPOOL POOLNAME SIZE 250 PAGESIZE 16K`.
4. Disconnect from the database.
5. Enter `DB2STOP`.
6. Enter `DB2START`.
7. Connect to the database.
8. Create the tablespace. Enter `CREATE TABLESPACE TABLESPACENAME PAGESIZE 16K MANAGED BY SYSTEM USING (PATH) BUFFERPOOL POOLNAME`.
9. Create the temporary tablespace. Enter `CREATE SYSTEM TEMPORARY TABLESPACE TABLESPACENAME PAGESIZE 16K MANAGED BY SYSTEM USING (PATH) BUFFERPOOL POOLNAME`.
10. Grant use of the tablespace to the Rhythmyx userID.

The recommended application heap size for Rhythmyx in DB2 is 2048 4 K pages. The default application heap size in DB2 is 128 4K pages. In the Database Configuration, change the value of the `APPHEAPSZ` parameter from *128* to *2048*. For additional information on recommended application heap sizes in DB2, see <http://db2.mi.hdm-tuttgart.de/db2help/help/index.jsp?topic=/com.ibm.db2.udb.spatial.doc/cfgappheap.html>

To prepare to run DB2 using your Rhythmyx user:

1. copy the DB2 instance profile (`<DB2_INSTANCE_DIR>/sqllib/db2profile`, where `<DB2_INSTANCE_DIR>` is the DB2 instance directory, such as `/export/home/db2inst1`) to the Rhythmyx user's home directory.
2. Add the following lines to the `.profile` file of the Rhythmyx user:

```
if [ -f /export/home/mylogin/db2profile ]; then
. /export/home/mylogin/db2profile
fi
```

Prerequisites For Upgrade from Rhythmyx Version 5.7 and Earlier

When upgrading from Rhythmyx Version 5.7 and earlier, you must modify any applications that have backend credentials defined locally. Rhythmyx now runs in a web application server container rather than acting as a Web server itself, and all security is provided by the container. Thus, local backend credentials are no longer valid and must be removed. If you attempt to install without removing local backend credentials, the installer will terminate with a warning message

An application includes local backend credentials if the Backend Data Access tab of the Application Security Settings dialog includes any entry in addition to or instead of *Rhythmyx Repository*.

Installation Order

For upgrades and reinstallations:

If you are upgrading or reinstalling the Rhythmyx Server or the Rhythmyx Repository Database, shut down the Rhythmyx Server and any running applications first.

If you are upgrading or reinstalling a client component, shut down that component locally. You do not need to shut down the Rhythmyx Server.

Install the components in the following order:

1. Install the Repository Database from the CD-ROM. (Note: You cannot install the Server until you have installed the Repository Database, as the Server's programs and files depend on the tables in the Repository Database).
2. Install the Server from the CD-ROM.
3. Install the client components by browsing to the Server's web pages and downloading their installers.

Note: If you are evaluating Rhythmyx and want to install all Rhythmyx components onto the same machine in one installer use the Suite Installer from the CD-ROM.

Starting Installations

The installation application and process you use depends on the components of the Rhythmyx system you are installing and the environment into which you are installing Rhythmyx.

When installing to Solaris or Linux, the user performing the installation must be the owner of all files copied from the CD-ROM, must have read permissions on all installer files, and must have execute permissions on the following files:

- suite.so
- the setupui.sh and setupconsole.sh scripts that you want to run

When installing into Solaris or Linux, copy the contents of the CD-ROM to a directory on the machine where you want to run the installation. When installing to Windows in command-line mode, it may be more convenient to copy the contents of the CD-ROM to the machine where you want to install Rhythmyx.

The directory for each operating system contains the following installers:

Installer	Use
Setup	Installs the Rhythmyx server and Repository.
PublisherSetup	Installs remote Publishers.
ContentConnectorSetup	Installs the Enterprise Content Connector.

You can launch the installers in either command line (terminal window) mode or using a graphic user interface. The command line installer provides more options for tracking and logging the installation process.

To launch the installer as a GUI in a Windows environment, browse to the Windows directory on the Rhythmyx CD-ROM and double-click on the installation application you want to launch.

To launch the installer in Windows using command-line mode, open a Command Prompt window, change to the directory where the installation application is located, and enter the name of the installer you want to run (`Setup.exe`, `PublisherSetup.exe`, or `ContentConnectorSetup.exe`).

To launch the installer in Linux or Solaris, change to the directory where the installer files reside, and run the shell script for the mode you wish to use. Scripts to run in command line mode use the name `installersetupconsole.sh`, where `installer` is the name of the installer you want to run; for example, `publishersetupconsole.sh`. Scripts to run the installer as a graphic user interface use the name `installerui.sh`, where `installer` is the name of the installer you want to run; for example, `contentconnectorsetupui.sh`.

When using a command line to initiate an installation, you can add the following parameters to the command:

Parameter	Effect
<code>-is:log <file name ></code>	All output to the Java console is logged to the specified file.
<code>-is:javaconsole</code>	Displays the Java console when running the installation application.
<code>-is:tempdir <directory></code>	The installation application writes all temporary files to the specified directory. If the specified directory does not exist, the installation application uses the system temp directory instead.

Installing Remote Client Components

The following remote client components are available:

- Developer Tools
- Enterprise Content Connector

NOTE: Remote Publishers must be installed from the CD.

Remote client components can only be installed on Microsoft Windows operating systems. Use a Web browser to install these components. To install remote client components, start a Web browser and enter:

```
server:port/Rhythmyx/Administration/component/Install.html
```

Where:

`server` is the name or IP address of the Rhythmyx server machine;

`port` is the port the Rhythmyx server listens on; and

`component` is the name of the component you want to install;

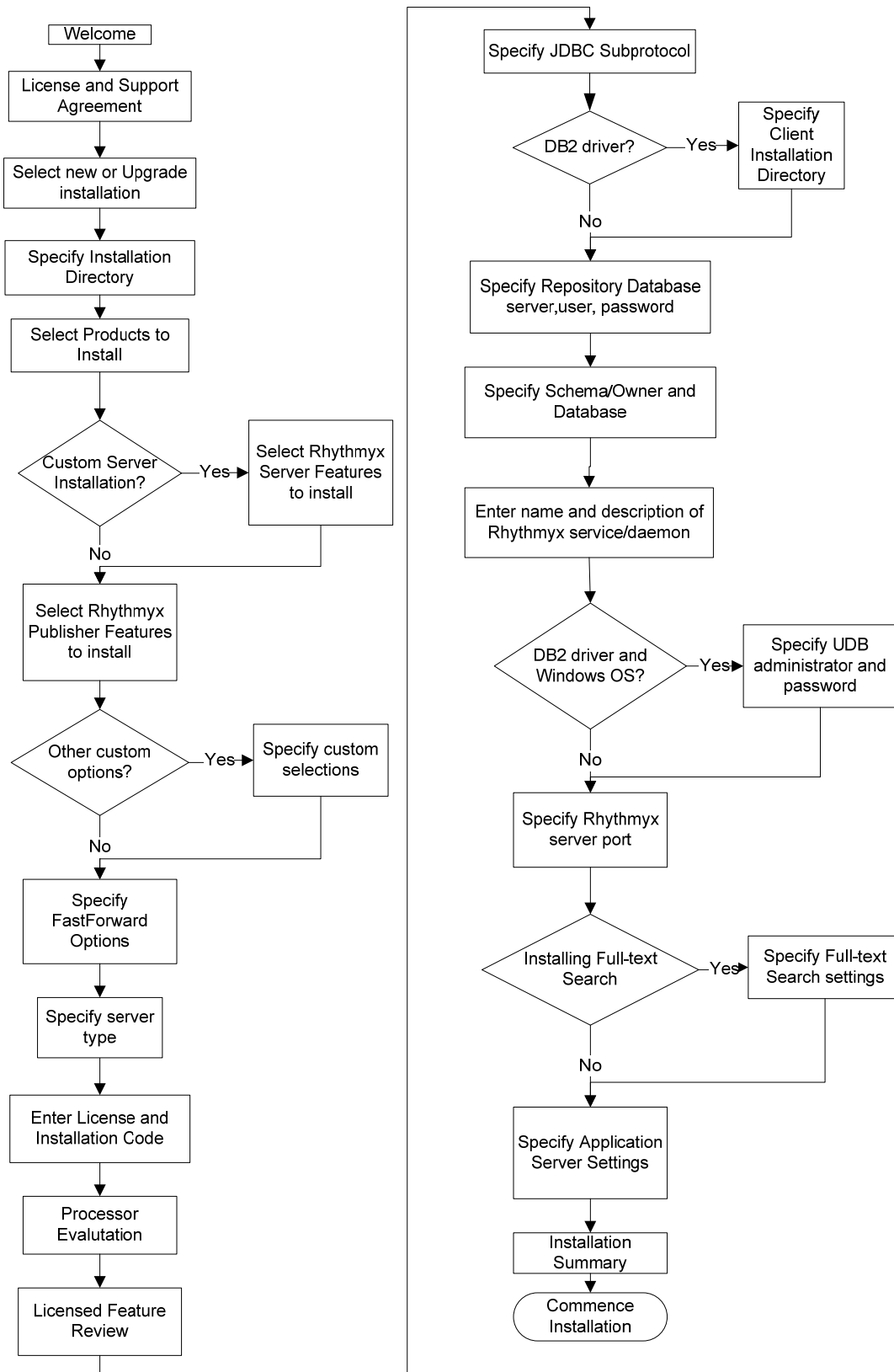
For example:

`FastForward:9992/Rhythmyx/Administration/DeveloperTools/Install.html`

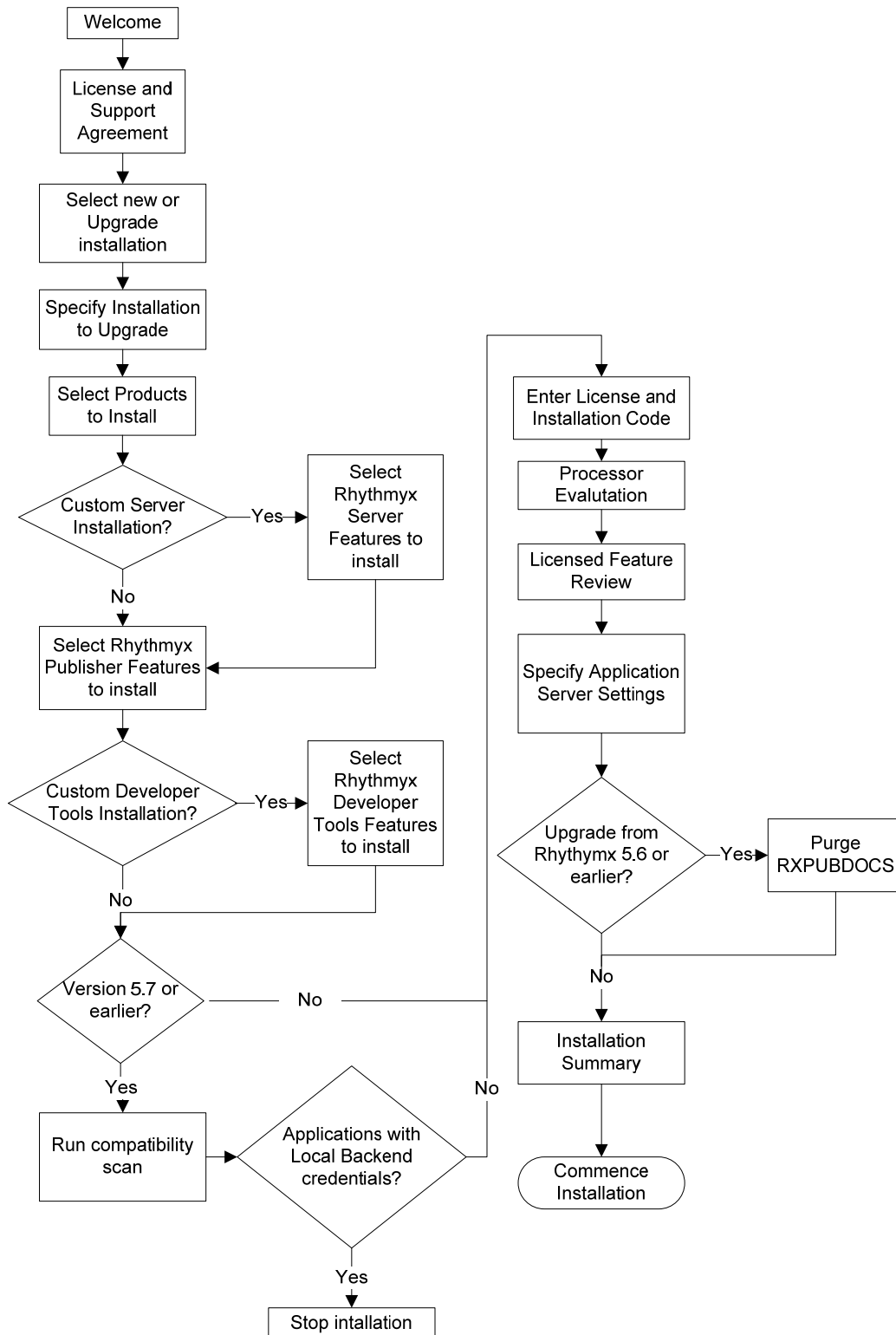
`FastForward:9992/Rhythmyx/Administration/Multi-serverManager/Install.html`

Installation Flow Charts

The following flow charts illustrate the installation sequence for Rhythmyx.



New Installation Sequence

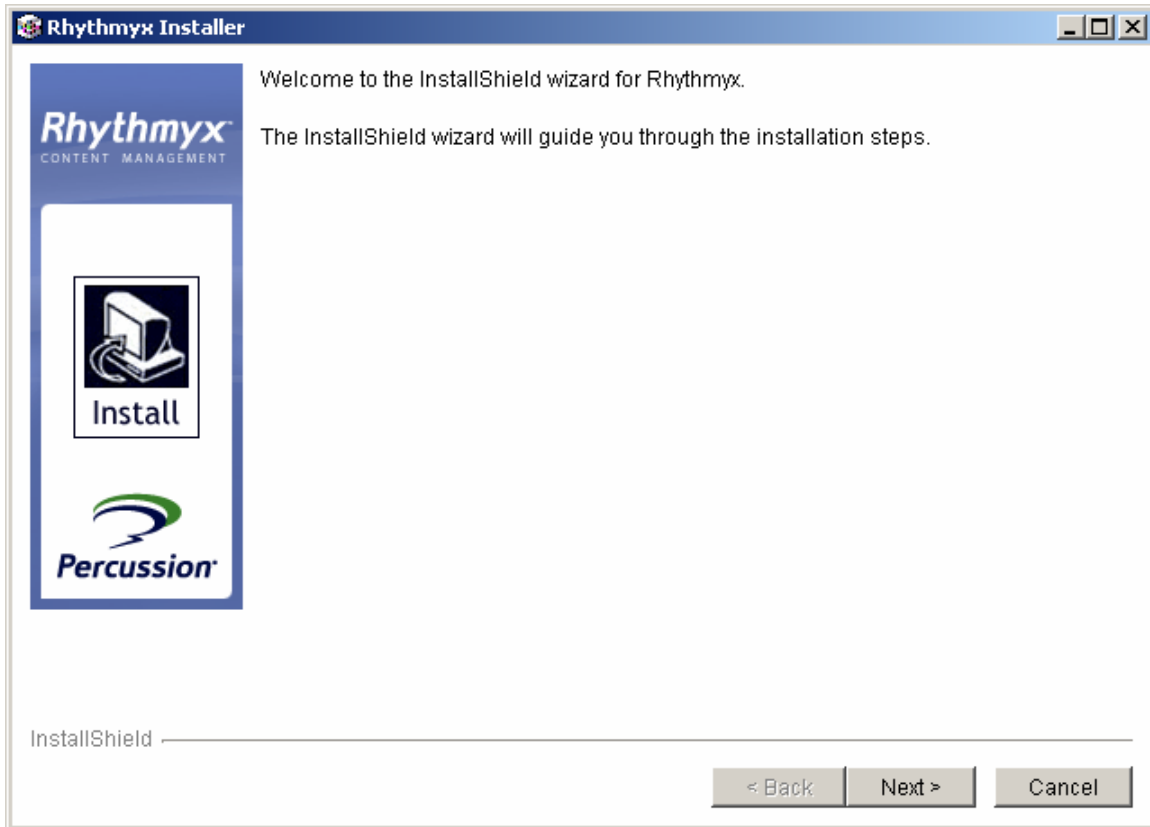


Upgrade Installation Sequence

General Installation Sequence

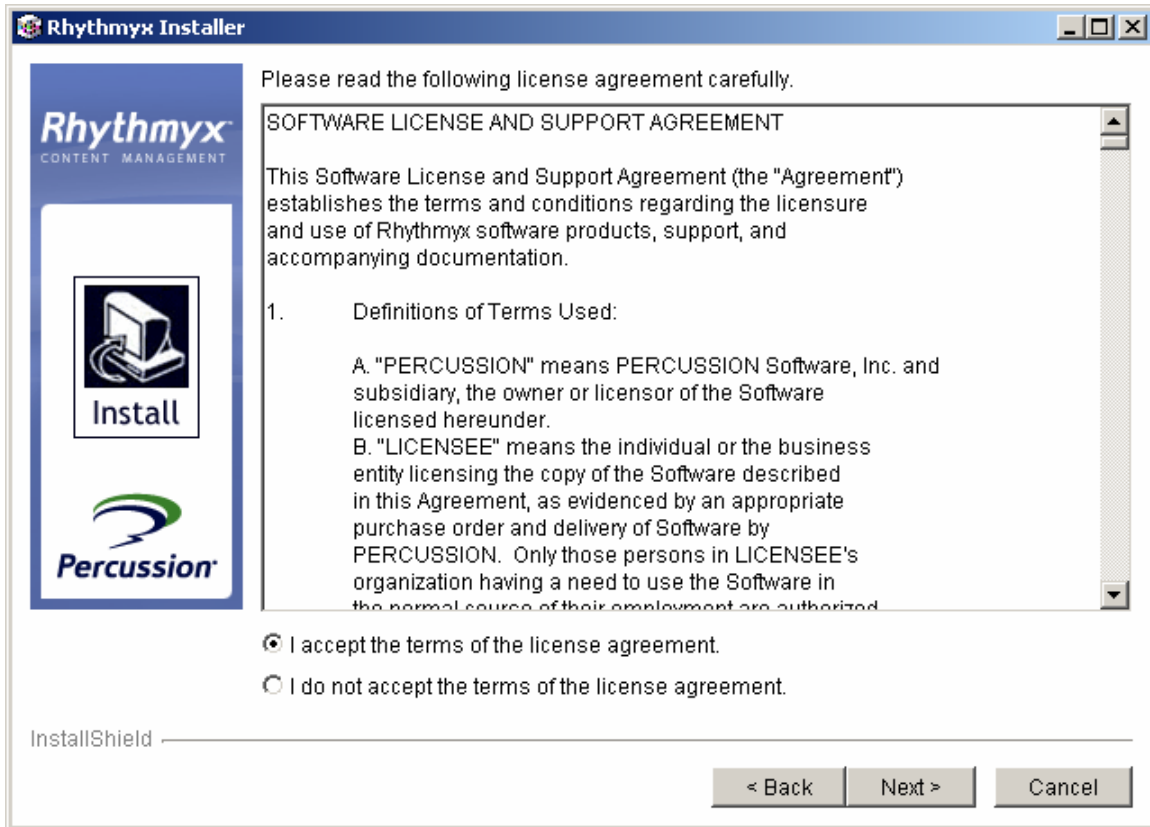
All Rhythmyx components follow a similar installation sequence, whether installed from the CD-ROM Suite Installer or browser.

1. The first page is the Welcome page. Click [Next].



Welcome Page

2. Read the software license and support agreement and click **I accept the terms of the license agreement**.



Software license and support agreement window

```
information by retaining and using the
Product in trust and confidence, solely for its internal use, and using
reasonable care and protection to
prevent the unauthorized use, copying, publication or dissemination of the
Product and PERCUSSION

Press ENTER to read the text [Type q to quit] q

[X]      - I accept the terms of the license agreement.
[ ] 2    - I do not accept the terms of the license agreement.

To select a choice enter its number, or 0 when you are finished [0]: █
```

Software license and support agreement in command line mode

3. If you are installing to Unix, the installer reminds you that you need to create a unique user to install and run Rhythmyx.

If you are performing a new installation of Rhythmyx, then you must create a system account for Rhythmyx, login into the system with that account and then run the installation. You must then use the new account for running Rhythmyx and performing updates to the Rhythmyx installation. If you are performing an update to an existing Rhythmyx installation, then you must login into the system with the same account under which you installed and run Rhythmyx. Also make sure that this account has read and write permissions on all the files under the Rhythmyx root directory.

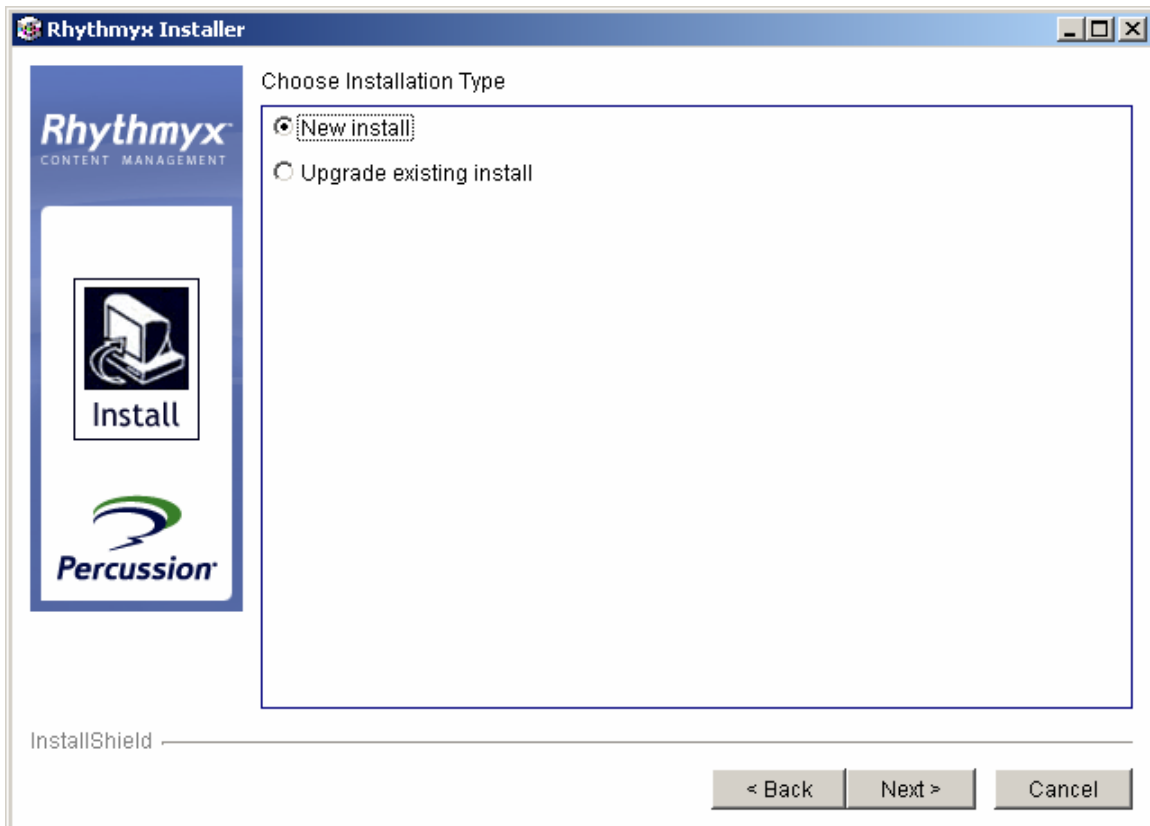
Unix Reminder to Create Rhythmyx User

The installer also reminds you about the permissions this user requires.

The current user must have read and write permissions on all the files under the Rhythmyx root directory. Please reset the file permissions before continuing with the installation.

Unix Reminder about Rhythmyx User Permissions

4. Specify whether you want to perform a new installation or upgrade an existing installation.



Installation Options Dialog

```
[X] 1 - New install
[ ] 2 - Upgrade existing install
```

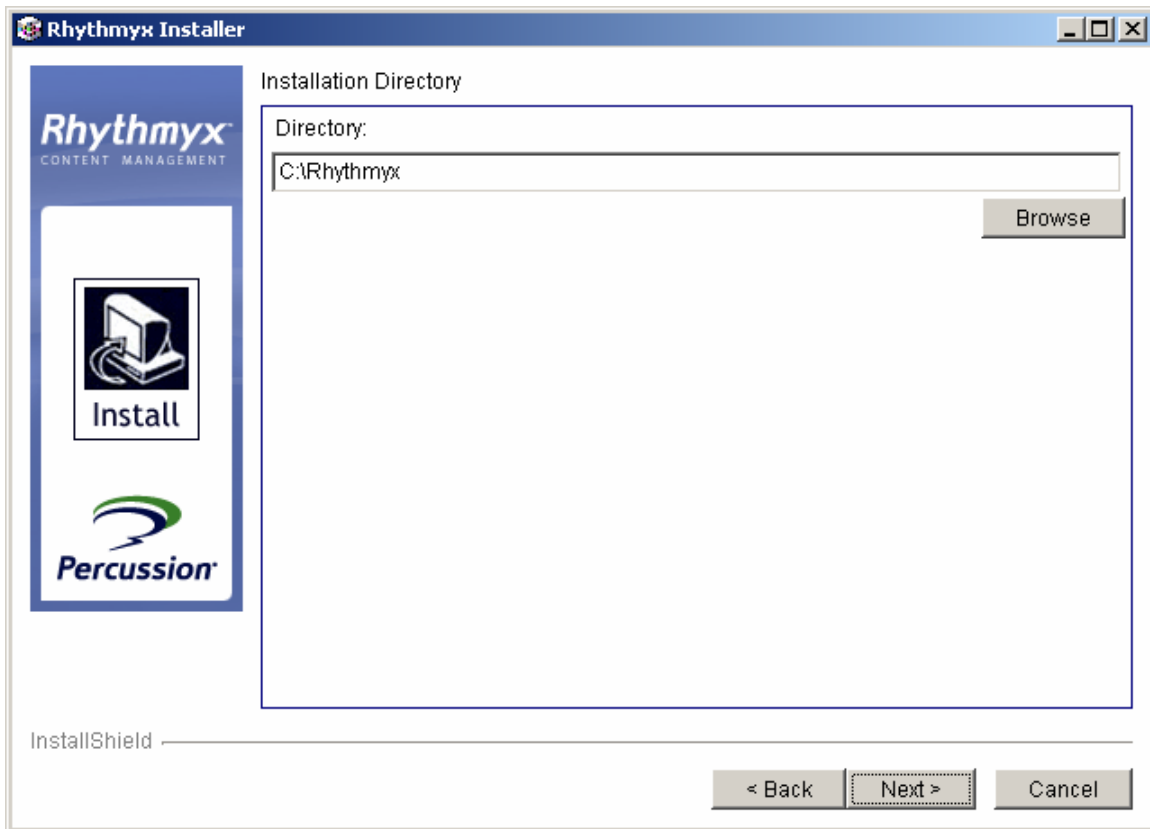
To select a choice enter its number, or 0 when you are finished [0]: █

Installation Options Dialog in command line mode

5. Choose the destination directory.

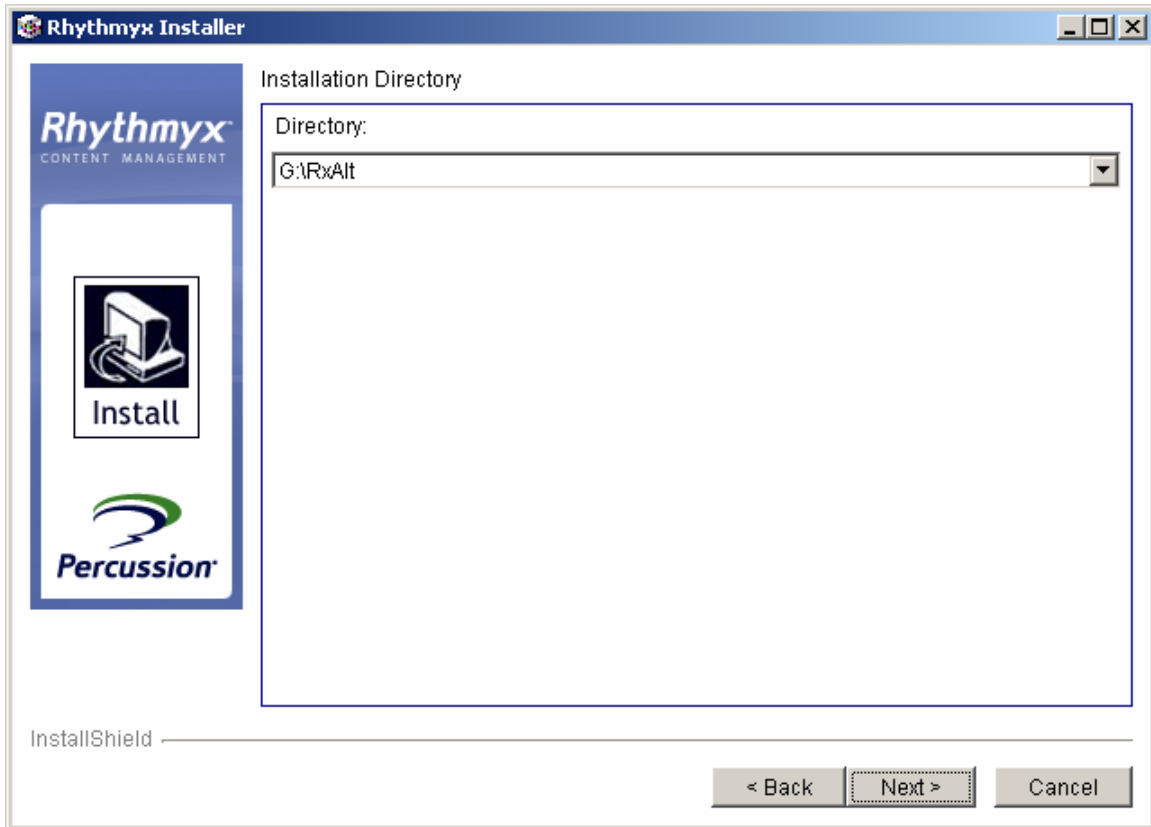
In Windows:

- For new installations Rhythmyx displays the directory name window (below). Either type in the directory path or click the **[Browse]** button to select a directory.



Directory name window for new installations

- For an upgrade of a previous installation, Rhythmyx displays the Installation Directory window. Choose either the current Rhythmyx directory or create a new directory.



Destination directory window

In UNIX:

- For new installations Rhythmyx asks you to specify a directory name.

```
Installation Directory
Please specify a directory name
```

Destination directory for New Installations in command line mode

- For an upgrade of a previous installation, Rhythmyx lets you choose either the current Rhythmyx directory or create a new directory.

```
Installation Directory

[X]   - /export/home/joeins/Rhythmyx
[ ] 2 - New Install

To select a choice enter its number, or 0 when you are finished [0]: 2
```

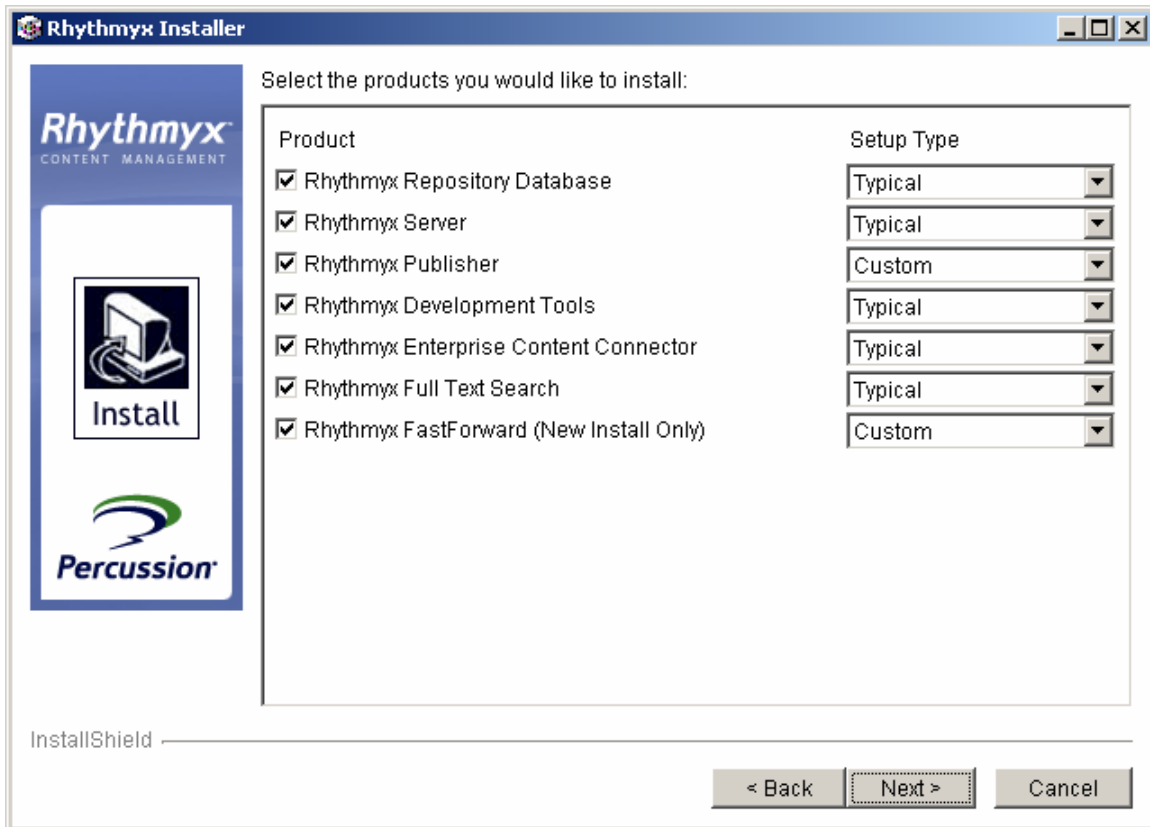
Destination directory in command line mode

NOTE: After you hit <Enter>, the Unix installer displays logging data as it runs.

6. Specify the setup type for the components you want to install. If you choose a custom installation, you must define the component features you want to install.

If you are using the Suite Installer, indicate the components you want to install.

- In Windows, check the box for the components you want to install and select the **Setup Type** from the drop list. Options are *Typical* (the installer decides which modules to install) and *Custom* (you decide which modules to install). The only Setup Type for the Rhythmyx Publisher is *Custom*.



Suite Installer window for selecting multiple products and their Setup Types

- In Unix, mark the components you want to install; then indicate the setup types.

To select/deselect a product or to change its setup type, type its number:

Product	Setup Type
1. [x] Rhythmyx Repository Database	Typical
2. [x] Rhythmyx Server	Typical
3. [x] Rhythmyx Publisher	Custom
4. [x] Rhythmyx Enterprise Content Connector	Typical
5. [x] Rhythmyx Full Text Search	Typical
6. [x] Rhythmyx FastForward (New Install Only)	Custom

```
Choose the setup type for Rhythmyx Repository Database

[X] 1 - Typical
[ ] 2 - Custom

To select a choice enter its number, or 0 when you are finished [0]:
```

```
Choose the setup type for Rhythmyx Server

[X] 1 - Typical
[ ] 2 - Custom

To select a choice enter its number, or 0 when you are finished [0]:
```

```
Choose the setup type for Rhythmyx Publisher

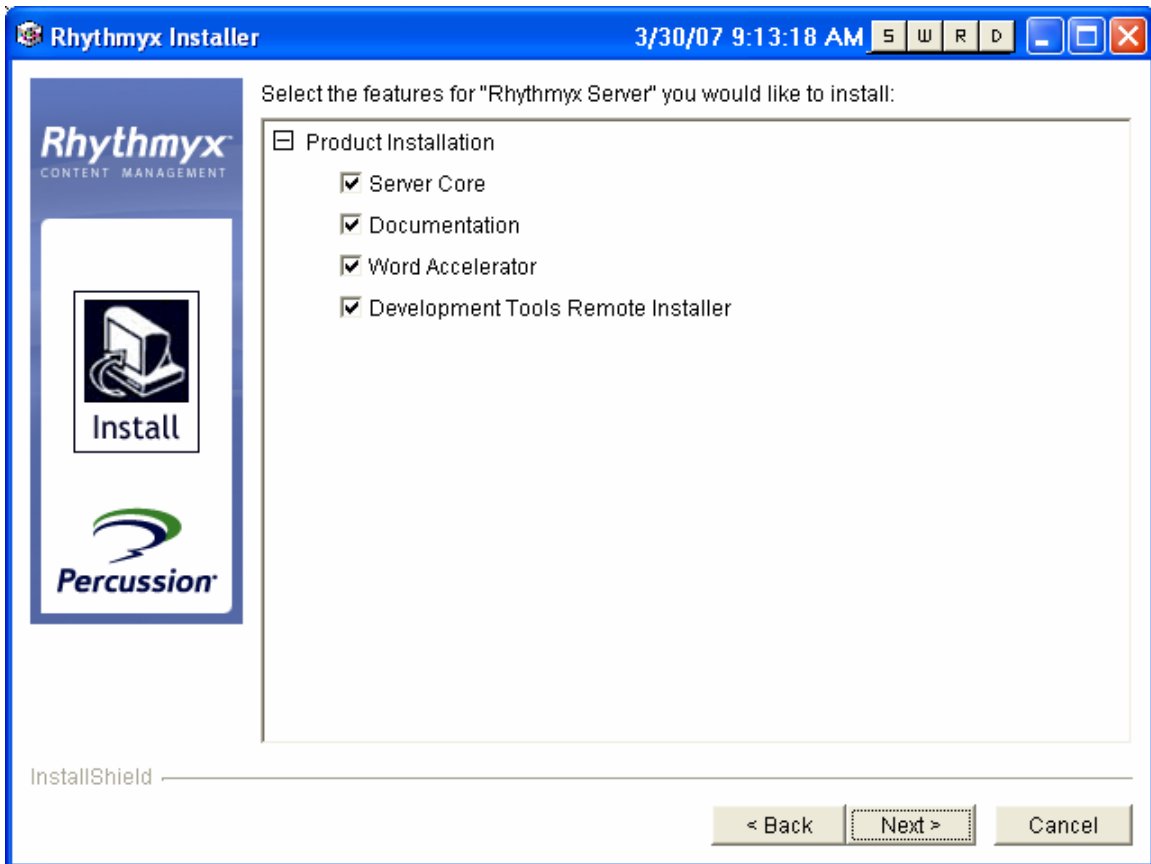
[X] 1 - Custom

To select a choice enter its number, or 0 when you are finished [0]: █
```

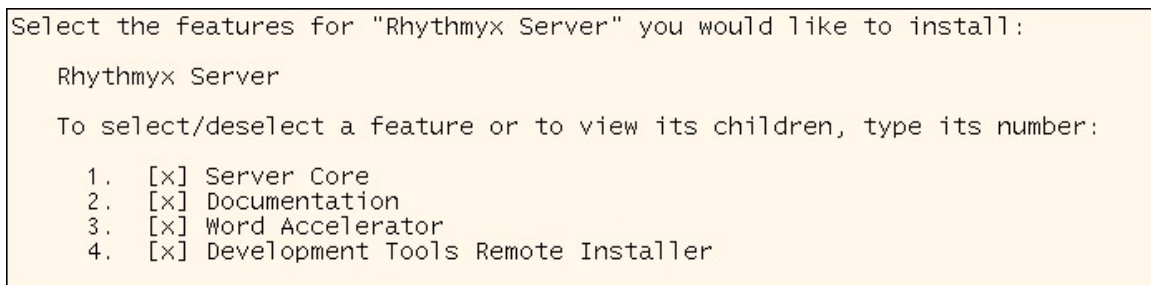
Suite installer steps in command line mode

NOTE: After you hit <Enter>, the Unix installer displays logging data as it runs.

If you choose a Custom Setup, you must choose the modules you want to install. By default, the features selected in the following Window are installed for the Rhythmyx Server whether or not you choose *Custom*, but you only see the following Window which allows you to change the features installed, if you choose *Custom* Rhythmyx Server in the previous Window.

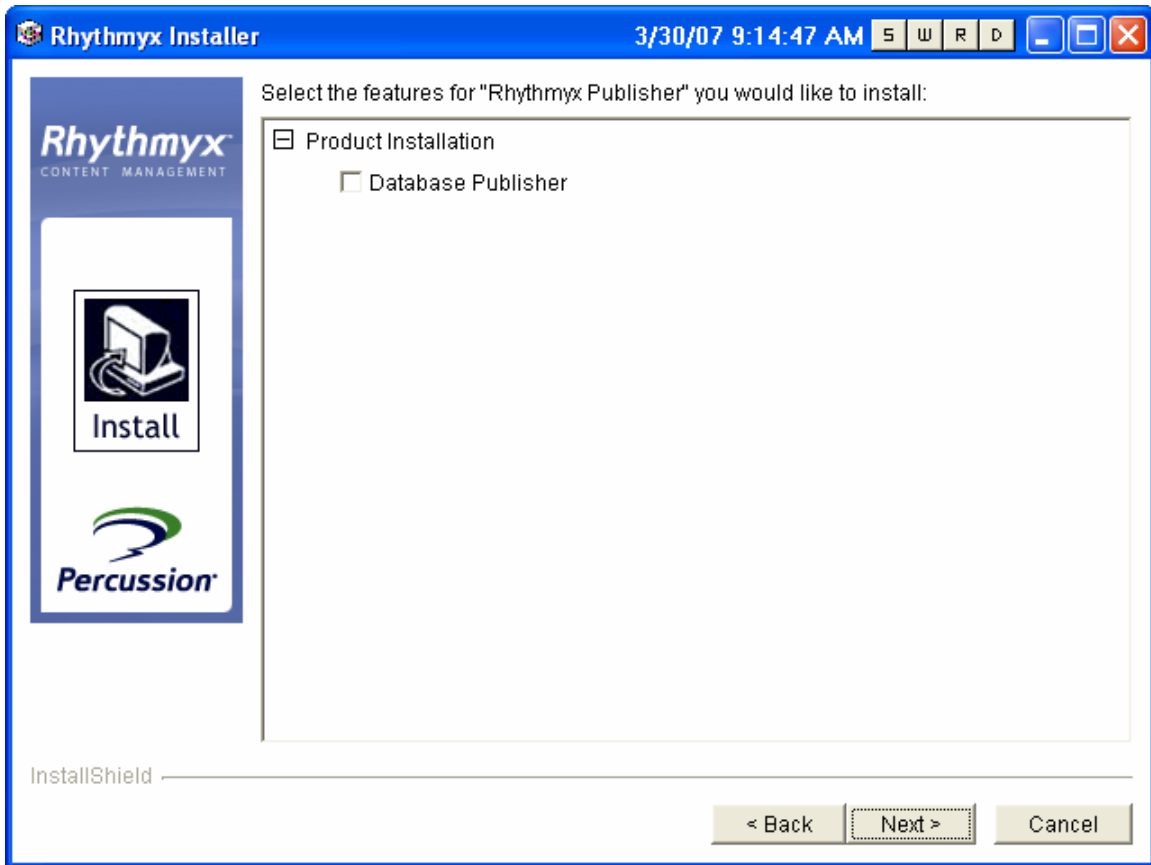


Custom Setup Type window with components you can install



Terminal window displaying components you can install

7. Since the only Publisher Setup Type is Custom, Rhythmyx displays the Rhythmyx Publisher Features dialog. You have the following options:
 - Database Publisher –Installs the Rhythmyx Publisher and the Database Publisher. You must have a valid license and brand.



Publisher Features Dialog

In UNIX:

```
Rhythmyx Publisher
```

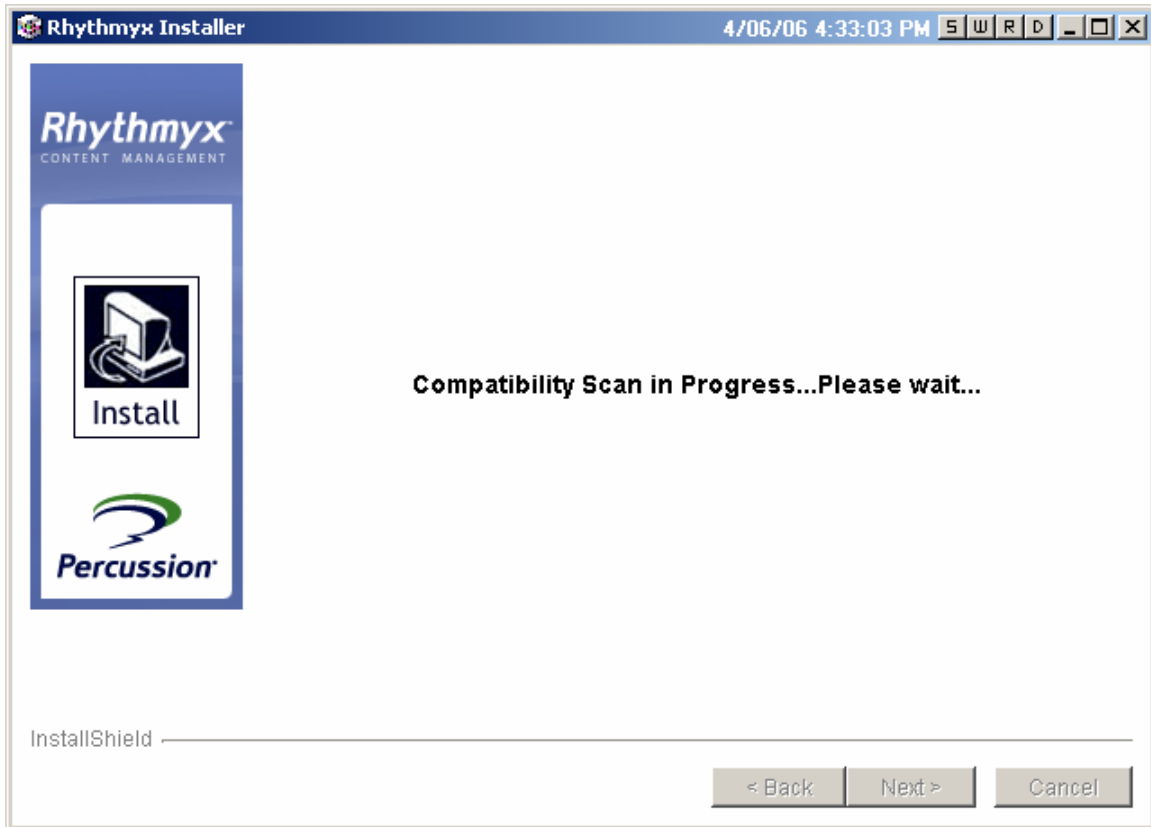
```
To select/deselect a feature or to view its children, type its number:
```

```
1. [ ] Database Publisher
```

Unix Screenshot Pending

- To install the Database Publisher:
 - Enter 1 for the Rhythmyx Publisher.
 - Enter 2 to “Visit children of Rhythmyx Publisher.”
 - If you are in a child, enter –1 to return to the parent.
 - Enter the number of each component and then 1 to toggle its install status to “on.”
 - Press [Enter] or 0 to install your selections.

8. If you are upgrading From Rhythmyx Version 5.7 or earlier, the installer scans your installation for locally-defined backend credentials.

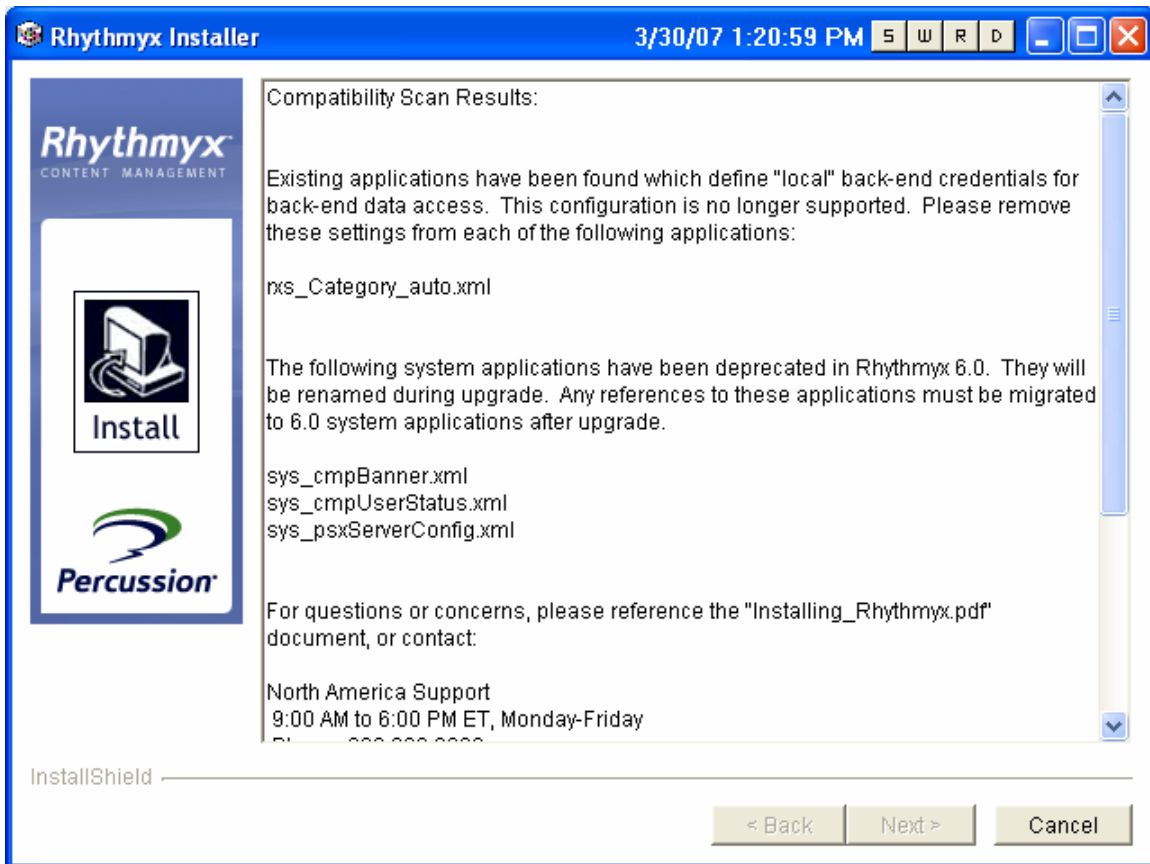


Compatibility Scan in Progress in GUI mode

Compatibility Scan in Progress...Please wait...

Compatibility Scan in Progress in command line mode

If the Compatibility Scan detects any applications with locally-defiend backend credentials, the installation wizard displays the following message:



Compatibility Scan Results for Applications with Locally-defined Backend Credentials in GUI mode

Existing applications have been found which define "local" back-end credentials for back-end data access. This configuration is no longer supported. Please remove these settings from each of the following applications:

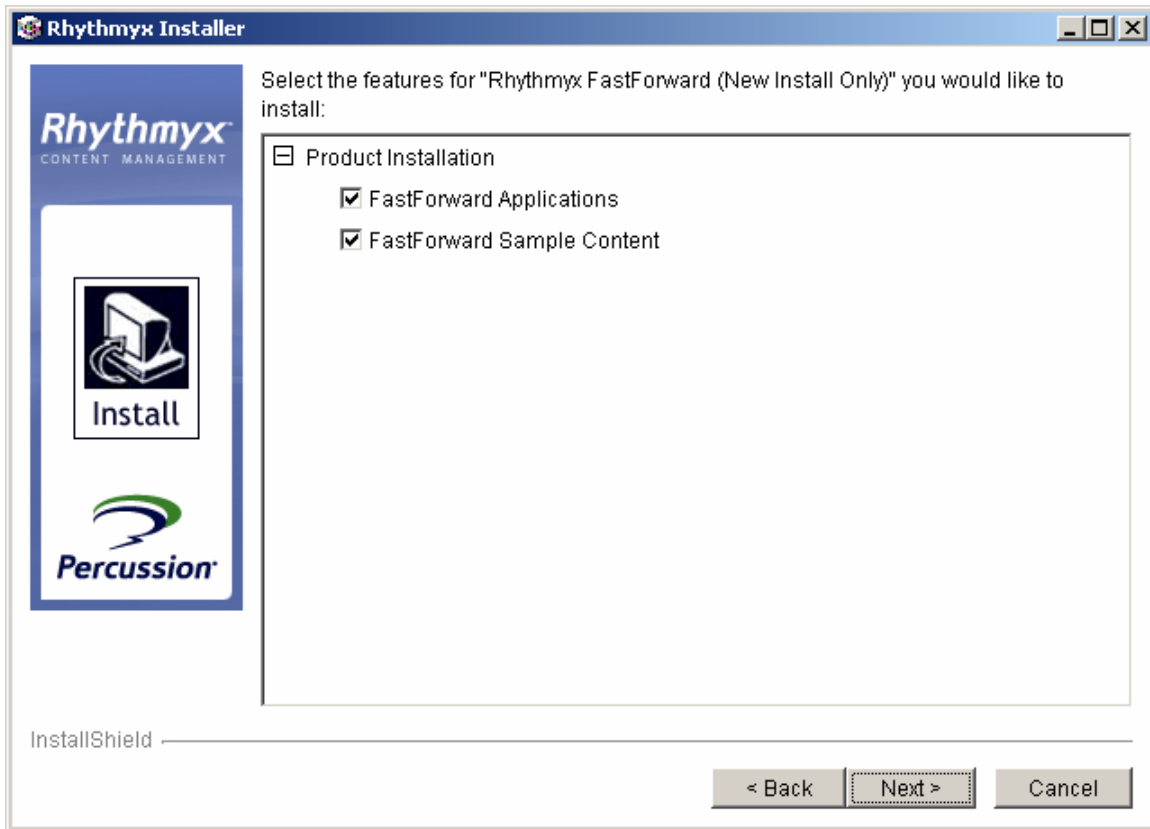
rxs_Category_auto.xml

Compatibility Scan Results for Applications with Locally-defined Backend Credentials in command line mode

If the installation wizard displays this dialog, you cannot proceed with the installation. You must cancel out of the installation and remove any locally-defined backend credentials in your system. Note that the dialog specifies which applications include locally-defined backend credentials.

If the Compatibility Scan does not detect any applications with locally-defined credentials, the wizard continues normally.

9. If you selected the Custom option for the FastForward installation (which is the default option), the installer displays the Select Rhythmyx FastForward Features to install dialog. Note that if you install the FastForward sample content, you must also install the FastForward applications. The installer will not allow you to uncheck the **FastForward Applications** checkbox unless the **FastForward Sample Content** box is also unchecked. Note, however, that you can install the FastForward applications without installing the FastForward sample content.



Select Rhythmyx FastForward Features to Install dialog

```
Select the features for "Rhythmyx Fast Forward" you would like to install:
```

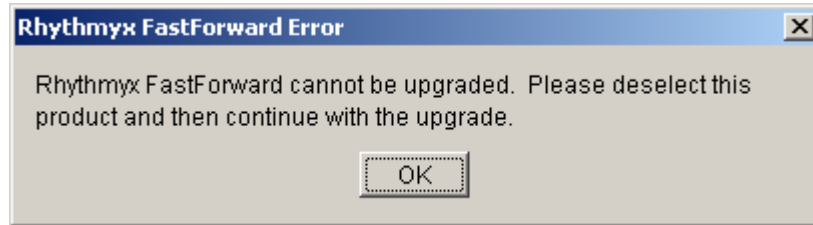
```
Rhythmyx Fast Forward
```

```
To select/deselect a feature or to view its children, type its number:
```

- ```
1. [x] Fast Forward Applications
2. [x] Fast Forward Sample Content
```

*Select Rhythmyx FastForward Features to Install in command line mode*

NOTE: FastForward cannot be installed on upgrades. If you attempt to install FastForward while upgrading, the installer will display the following message:

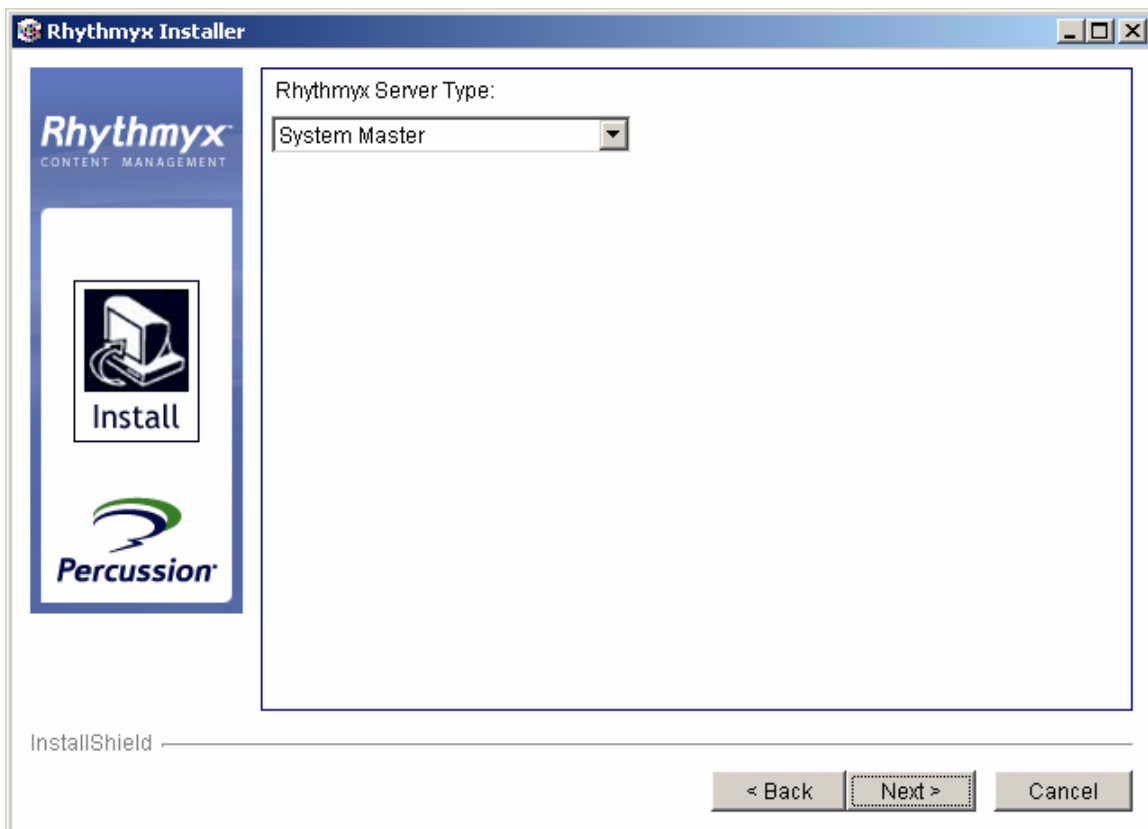


*Warning displayed when attempting to install FastForward while upgrading Rhythmyx.*

*Unix Screenshot Pending*

10. Specify the type of Rhythmyx Server you are installing. Options are:

- System Master (The central Rhythmyx server in the installation. The System Master acts as both a Content Hub and a Publishing Hub.)
- Publishing Hub (A Rhythmyx server that is used only the publish content. This server cannot be used to maintain content.)



*Rhythmyx Server Type Dialog*

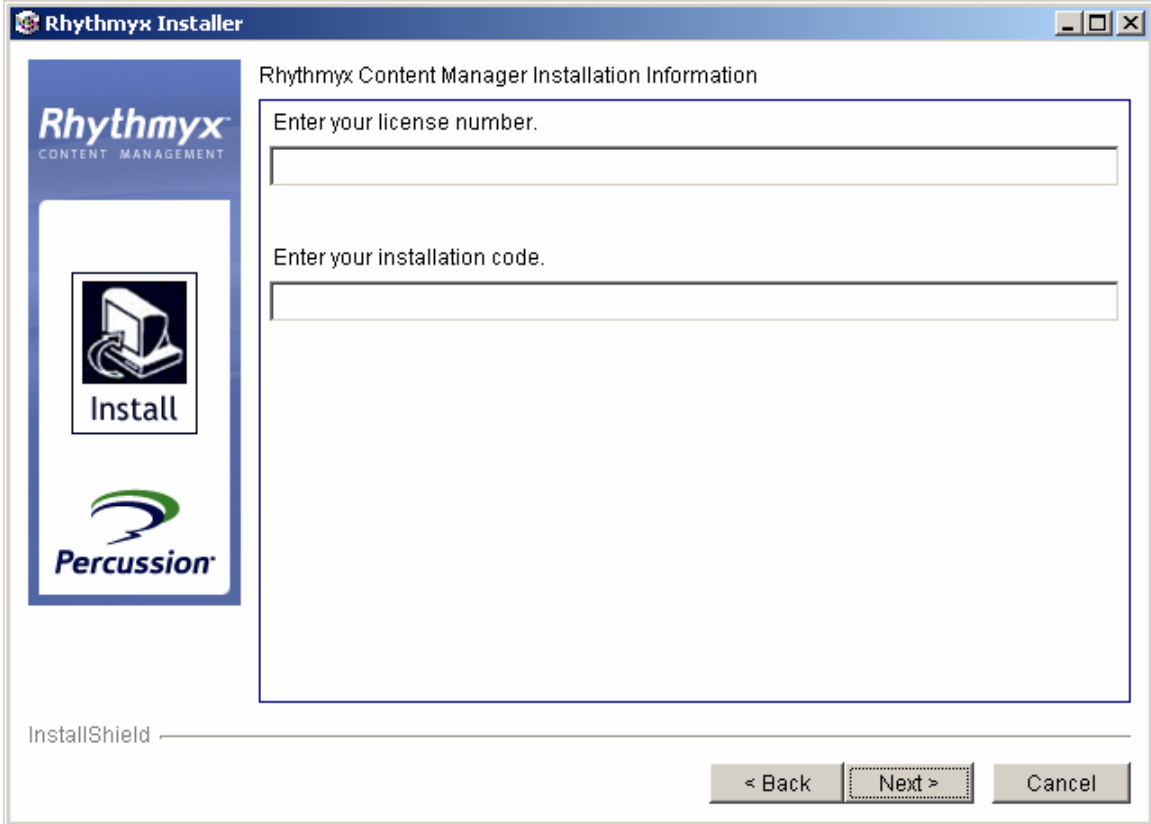
```
Rhythmyx Server Type:
 1. System Master
 2. Publishing Hub
[1] █
```

***Rhythmyx Server Type Selection in Command-line Mode***

11. On the Product Branding Information window enter the **License Number** and **Product Code**. The License Number and Product Code are located on the installer CD-ROM jacket.

Note: Rhythmyx displays this dialog only if you are installing at least one of the following components:

- Repository database
- Server
- Database Publishing
- BEA WebLogic Connector
- IBM WebSphere Connector

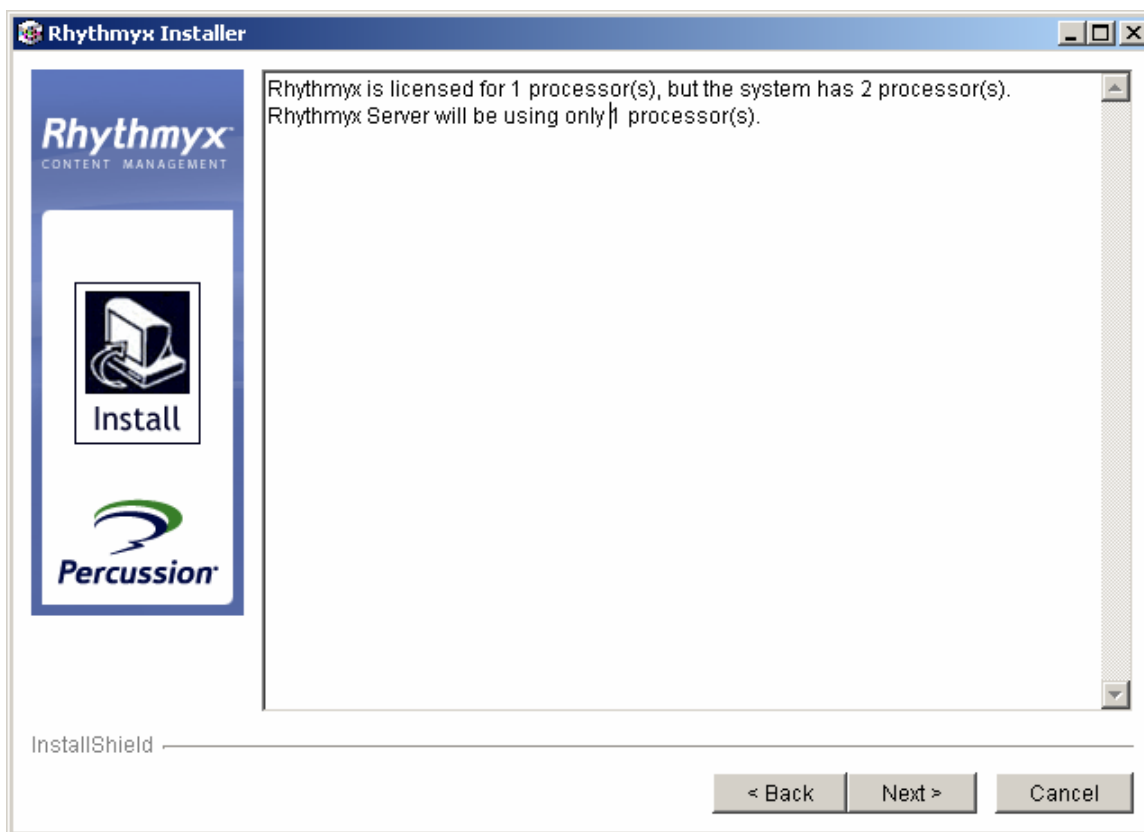


***License Number and Installation Code window***

```
Product Branding Information
Enter your customer license number.
 [] FCECIIC-VHEIJFHGAA-EO
Enter your product code.
 [] FCECIIC-VHEIJFHGAA-EO
```

***Product Branding Information in command line mode***

- 12. Rhythmyx is licensed by physical processor. You can install Rhythmyx to a machine that has more physical processors than your you license permits, but Rhythmyx only uses the number of processors you are licensed to use. In that case, the installer displays a message notifying you about the number of processors Rhythmyx will actually use.

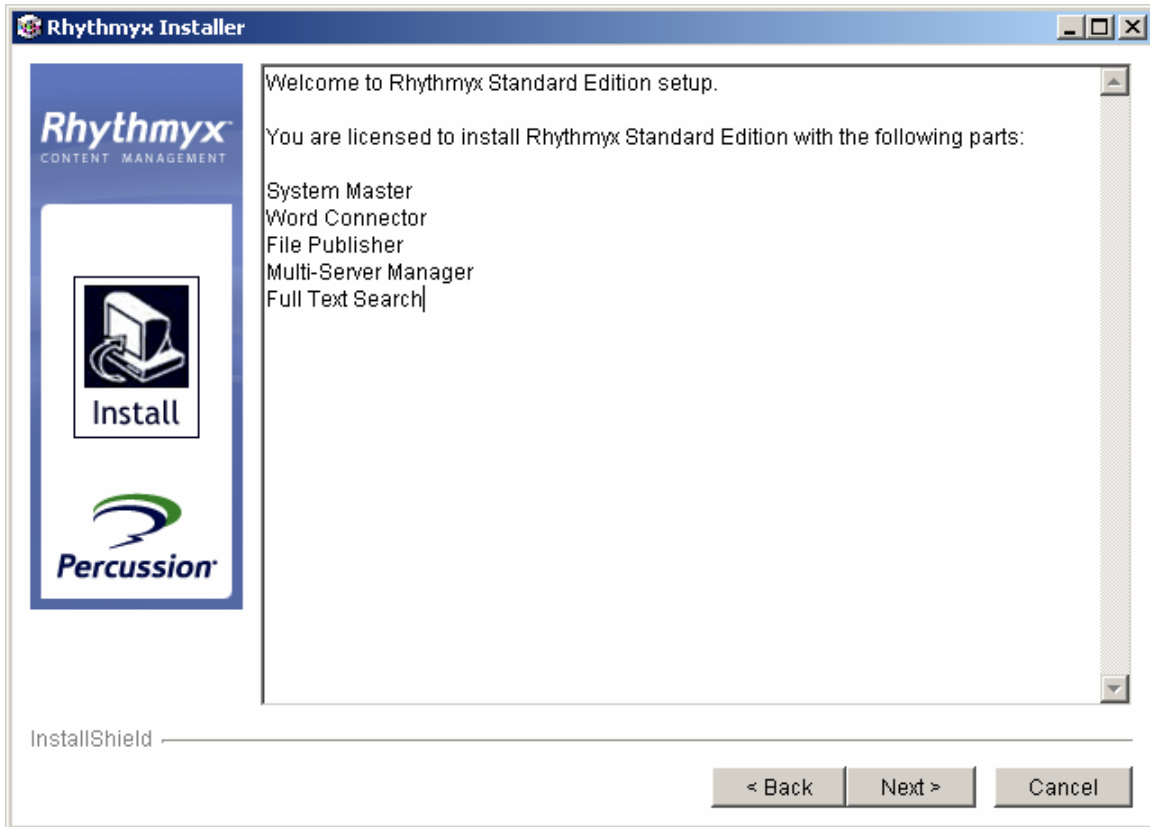


***Processor Notification in Windows***

```
Rhythmyx is licensed for 1 processor(s), but the system has 2 processor(s).
Rhythmyx Server will be using only 1 processor(s).
```

***Processor Notification in Unix***

13. After displaying any warnings, the installer displays a summary of the Rhythmyx features you are licensed to install.



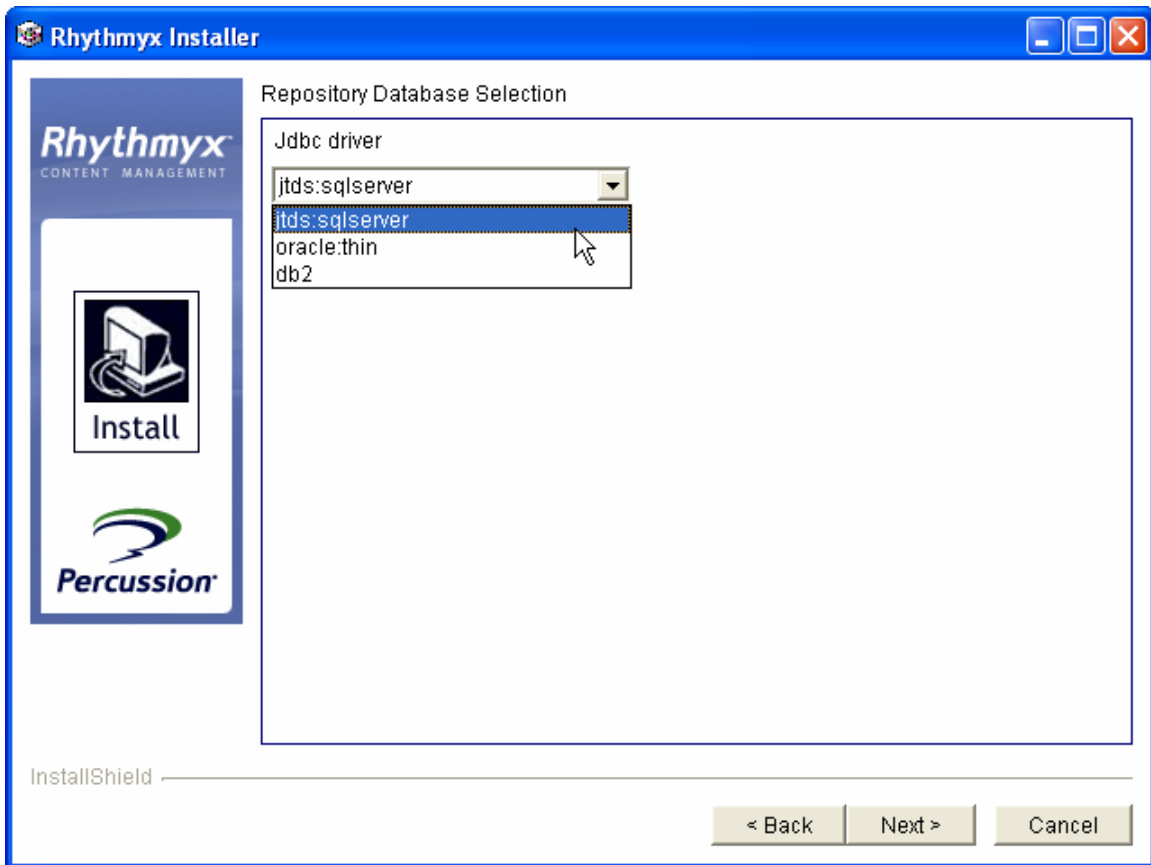
*List of licensed features*

You are licensed to install Rhythmyx Enterprise Edition with the following parts:

- System Master
- Document Management
- Word Connector
- File Publisher
- Database Publisher
- Multi-Server Manager
- Full Text Search

*List of licensed features in command line mode*

14. If you are installing the Suite, Server, or Repository, define your database connection:
- Choose the Jdbc subprotocol used to connect to your database.



*Repository Database Selection window for the Jdbc subprotocol*

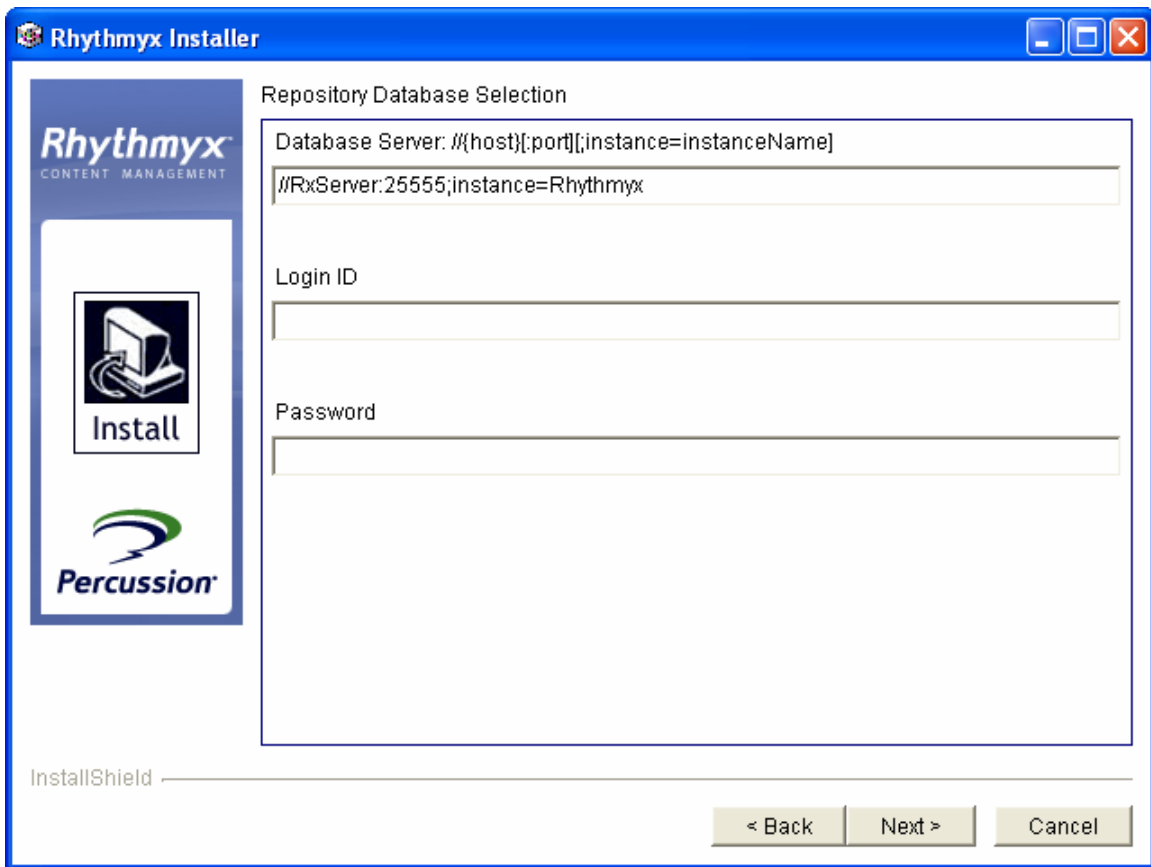
```
Repository Database Selection
1. jtds:sqlserver
2. oracle:thin
3. db2
Jdbc driver [1]
```

*Repository Database Selection in command line mode*



- If you choose *jdts*, *oracle:thin* or *db2* as your JDBC subprotocol, Rhythmyx will ask you to enter the **Server**, **Login ID**, and **Password**. If you chose *db2*, the **Database** field replaces the **Server** field. When entering the **Server** name, use the following syntax:

| Driver | Syntax                                      | Sample                                            |
|--------|---------------------------------------------|---------------------------------------------------|
| Oracle | @<server>:<port>:<SID>                      | @38.164.160.36:1521:ORCL                          |
| TDS    | <://server>:<port>(;instance=instance Name) | //dbserver:<br>//dbserver:50000;instance=Rhythmyx |
| UDB    | jdbc:db2://server<:port>/<database>         | jdbc:db2://DB2Host<:50000>/<rxmaster>             |

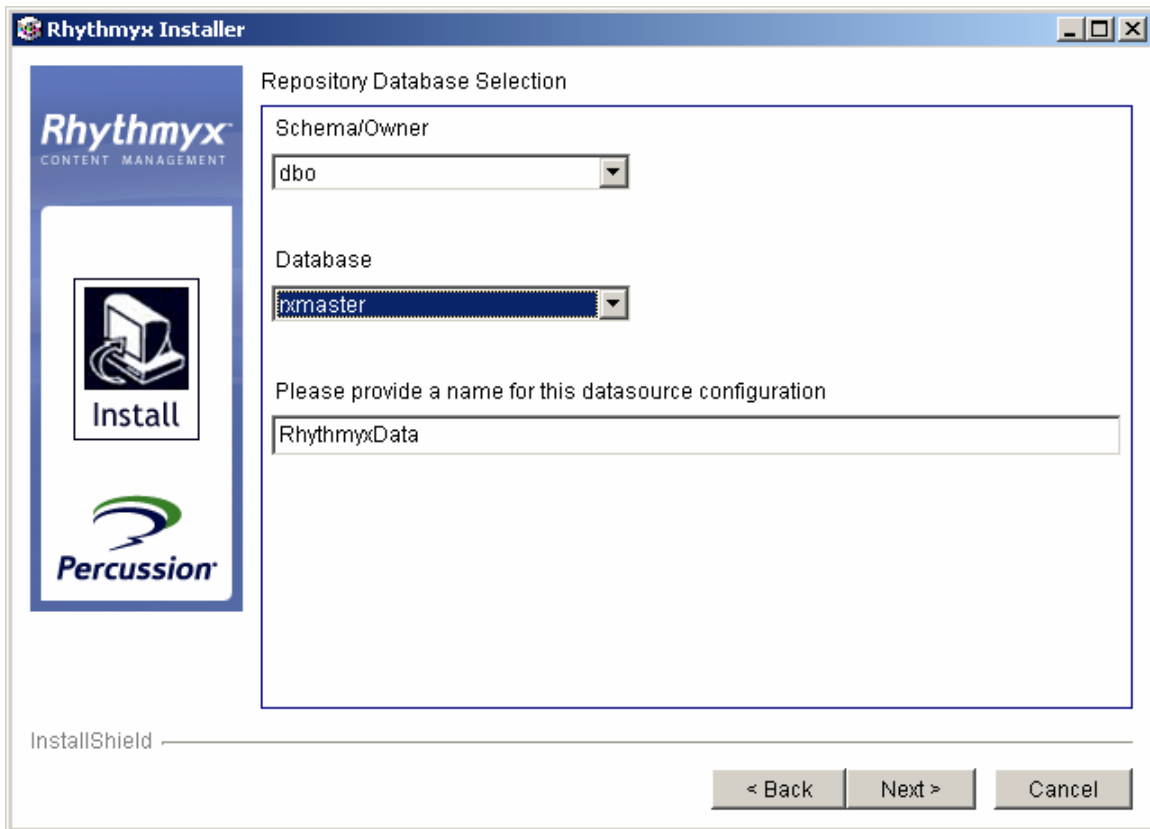


*Repository Database Selection window for the Server, Login ID, and Password when the JDBC subprotocol is jTDS*

```
Repository Database Selection
Database Server: @{host}:{port}:{sid}
[@DevSol1:1521:ORCL]
```

*Repository Database Selection for the Database, Login ID, and Password in command line mode when the JDBC subprotocol is Oracle*

- b. Choose the **Schema/Owner** and **Database**., and specify the name of the datasource configuration. (The default name for the datasource configuration is *RhythmyxData*.)  
 Note: The **Database** field does not apply in Oracle or DB2, so the dialog does not include it when you select *oracle:thin* or *db2* as the JDBC subprotocol.



***Repository Database Selection window for the Schema/Owner and Database***

In UNIX:

- The installer displays a list of available databases. To select one, enter its number.

```
To select a choice enter its number, or 0 when you are finished [0]: 25
```

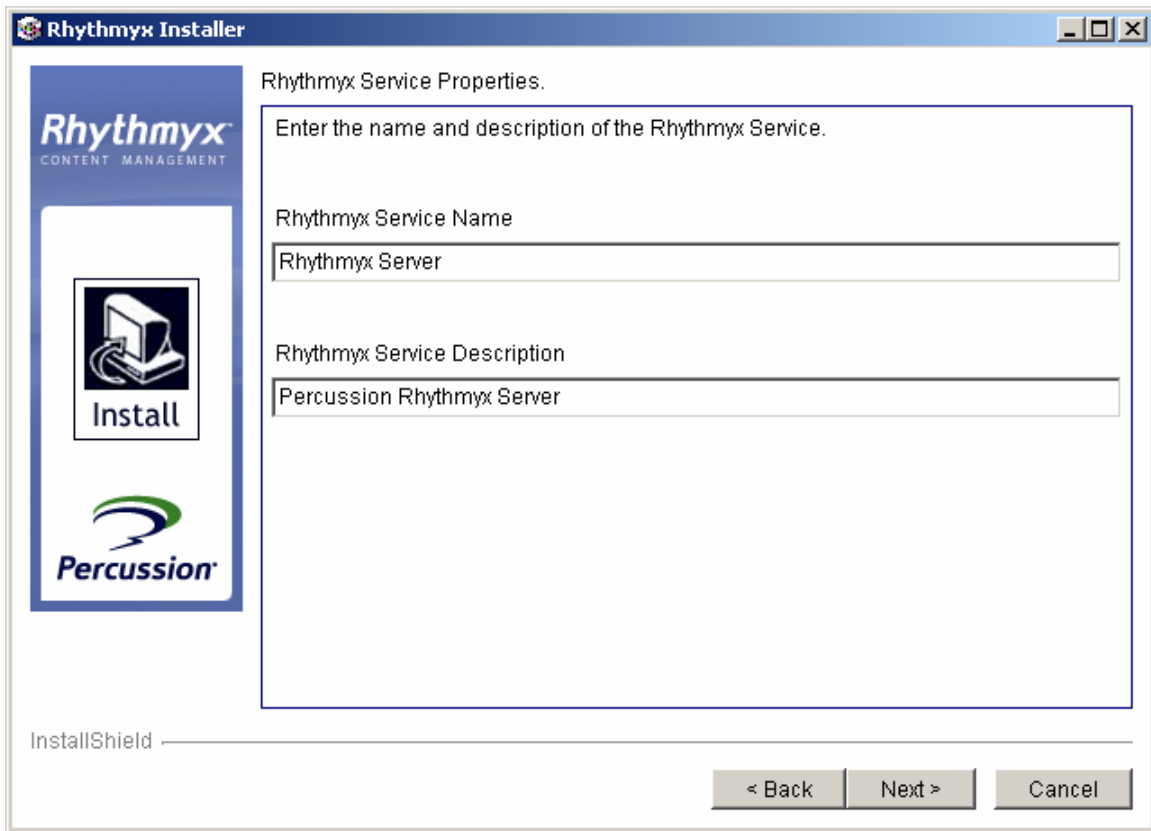
***Repository Database Selection in command line mode***

- After you select the database, the installation wizard attempts to connect. If it connects successfully, it will ask you to provide a name for the Datasource configuration. The default name is Rhythmyx Data, but you can change it to another name if you prefer.

```
Connecting to : jdbc:oracle:thin:@10.10.10.91:1521:reznor
Please provide a name for this datasource configuration: [RhythmyxData]
```

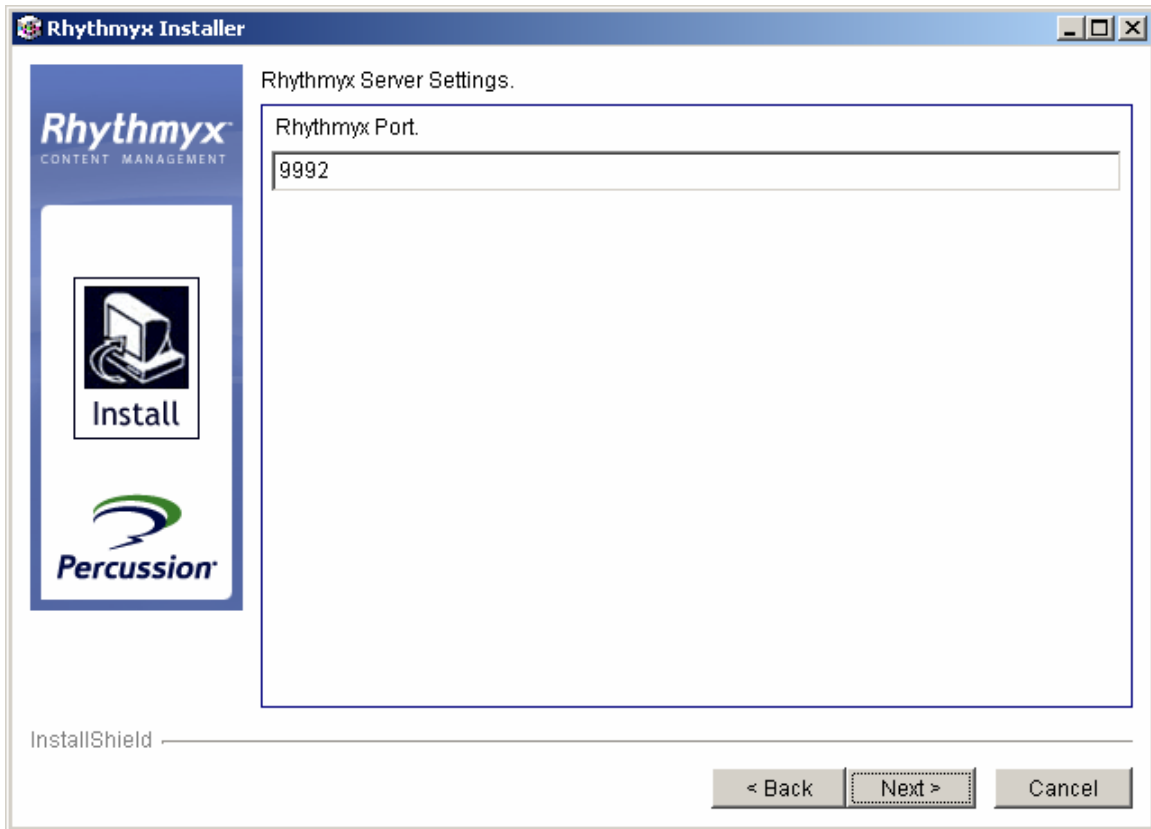
***Datasource configuration in command line mode***

15. In a Windows environment, the installer displays the Rhythmyx service configuration dialog. Enter the Name and Description of the Rhythmyx service. The default name is *Rhythmyx* and the default description is *Percussion Rhythmyx*.

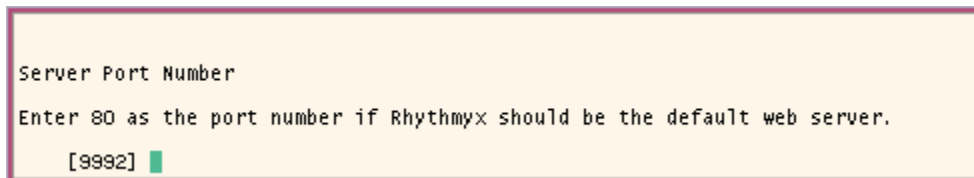


*Windows Service Configuration dialog.*

16. Enter the **Server Port Number**. Note: This step applies to Server installations only.

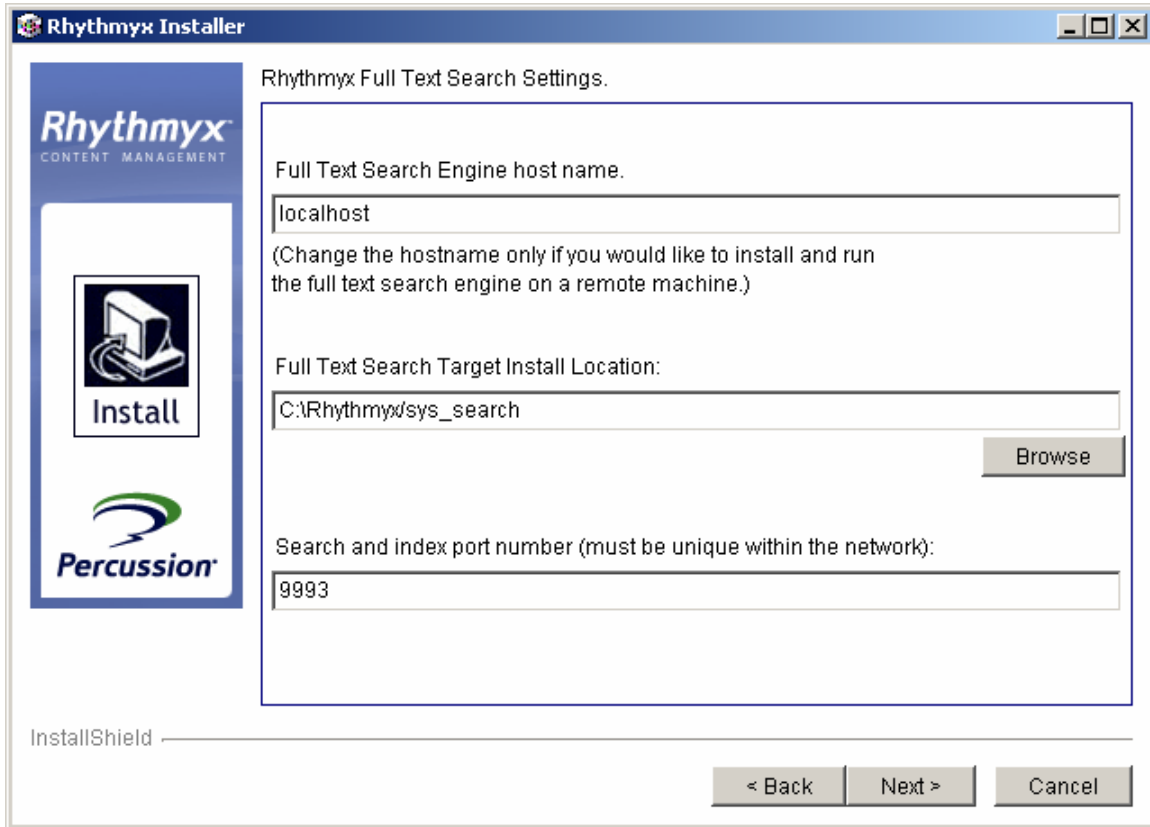


*Window for Server Port Number*



*Server Port Number in command line mode*

17. If you have specified that you want to install the Rhythmyx Full-text Search Engine, the installer displays the Full Text Search Settings dialog.



#### *Full-text Search Settings dialog*

```
Rhythmyx Full Text Search Settings.

Full Text Search Engine host name. [DevSol1]
Full Text Search Target Install Location:
[/export/home/robert/Rhythmyx/sys_search]
Search and index port number. [9651]
```

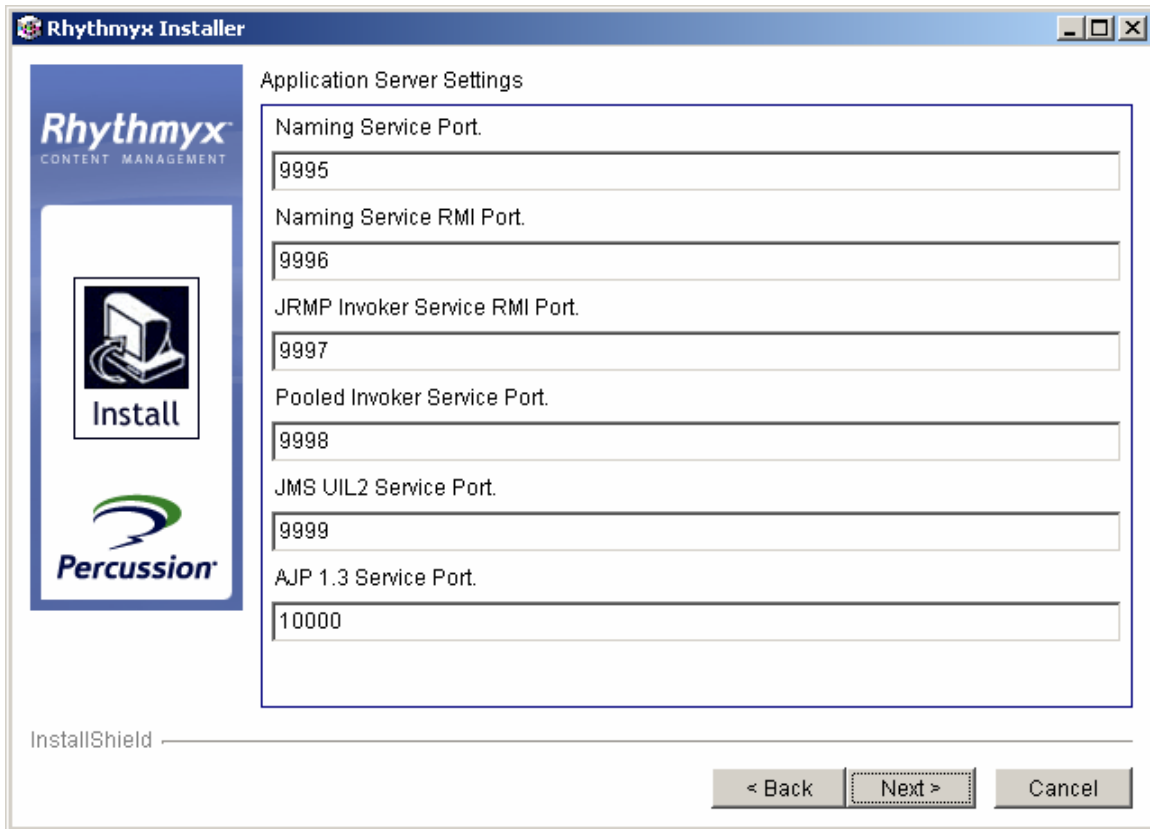
#### *Full-text Search Settings in command line mode*

The name of the local machine defaults into the **Full Text Search Engine host name** field. If you want to install to a different machine, you must enter the name of the machine here. Note that the licensing for the full-text search engine requires the use of a valid host name. You cannot use an IP address or any variation of “localhost”; these values will cause the search engine service to fail when attempting to start.

The default location of the full-text search engine (<rhythmyxroot>/sys\_search) is automatically entered in the **Full Text Search Target Install Location** field. If you want to install to a different location (such as on a remote machine), enter the fully-qualified path to that location.

The value in the **Search and index port number** field defaults to the value of the Rhythmyx port +1 (in other words, if you accept the default value of 9992 for the Rhythmyx port, the value in the **Search and index port number** field will be 9993). You can change this value to any valid port.

18. Review the ports for the Application Server.  
These ports are used internally by the Rhythmyx server. You should ensure that no other application on your system is using any of these ports. If any other application is using any of these ports, the Rhythmyx server may malfunction or fail.



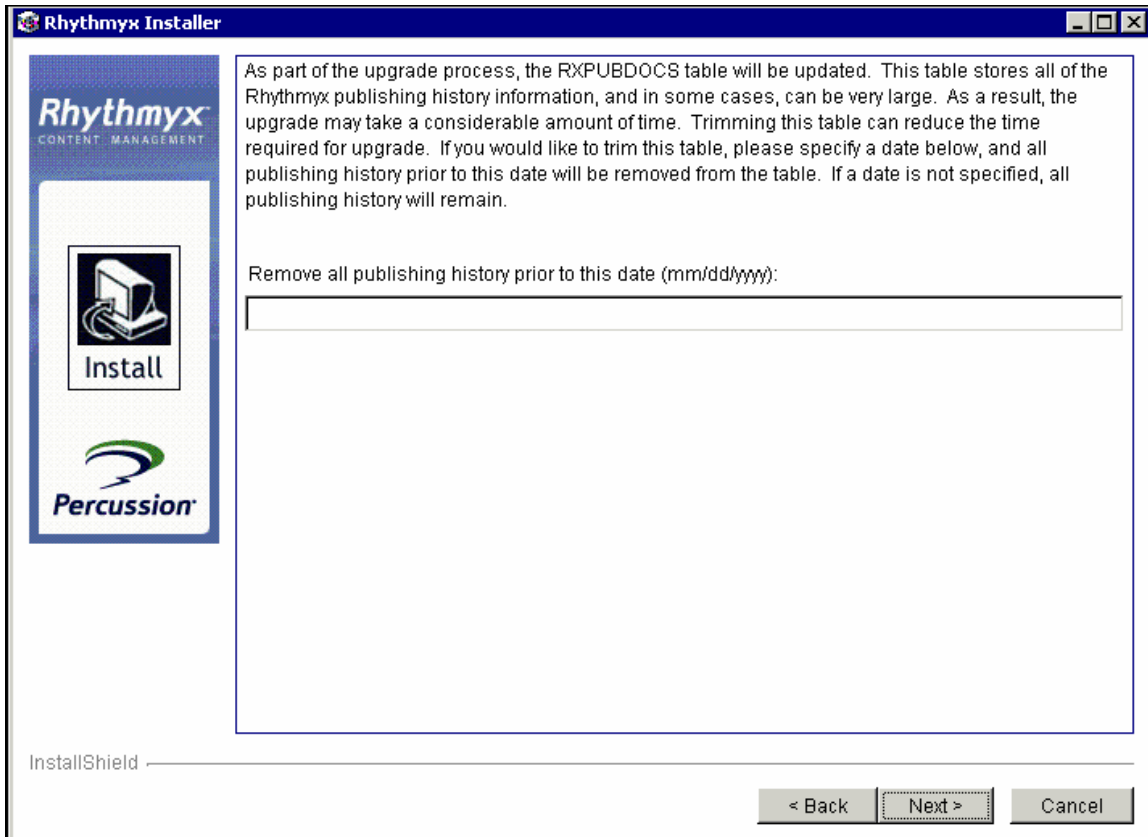
***Application Server Settings dialog***

In command-line mode, the settings are displayed individually.

```
Application Server Settings
Naming Service Port. [9232]
Naming Service RMI Port. [9233]
JRMP Invoker Service RMI Port. [9234]
Pooled Invoker Service Port. [9235]
JMS UIL2 Service Port. [9236]
AJP 1.3 Service Port. [9237]
```

***Application server settings in command line mode***

19. If you are performing an upgrade from Rhythmyx Version 5.6 or earlier, the installation wizard will ask if you want to purge the table RXPUBDOCS. This table stores metadata describing the published output of Content Items. During the upgrade, this table will be modified. Processing this table can take a long time, so the installation wizard provides the option of purging records prior to a specified date. Any records prior to the date you specify will be purged from the system and permanently removed from the Repository, so you will not be able to access details of Publication logs (although the logs themselves will still be available). Enter the latest date for which you want to preserve the data in RXPUBDOCS.



***Purge RXPUBDOCS dialoge***

As part of the upgrade process, the RXPUBDOCS table will be updated. This table stores all of the Rhythmyx publishing history information, and in some cases, can be very large. As a result, the upgrade may take a considerable amount of time. Trimming this table can reduce the time required for upgrade. If you would like to trim this table, please specify a date below, and all publishing history prior to this date will be removed from the table. If a date is not specified, all publishing history will remain.

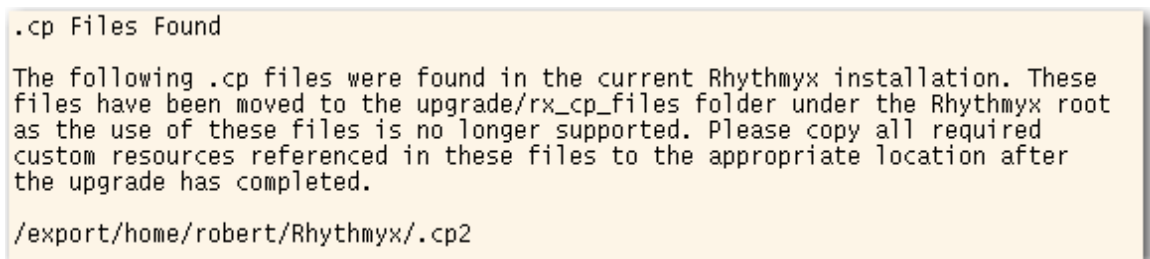
Remove all publishing history prior to this date (mm/dd/yyyy): [] █

***Purge RXPUBDOCS purge in command-line mode***

20. If you are performing an upgrade, the installation wizard scans for .cp files. If any .cp files are detected, the wizard displays the following dialog:



*Message displayed in GUI mode if the installation wizard detects .cp files in the Rhythmyx installation directory*

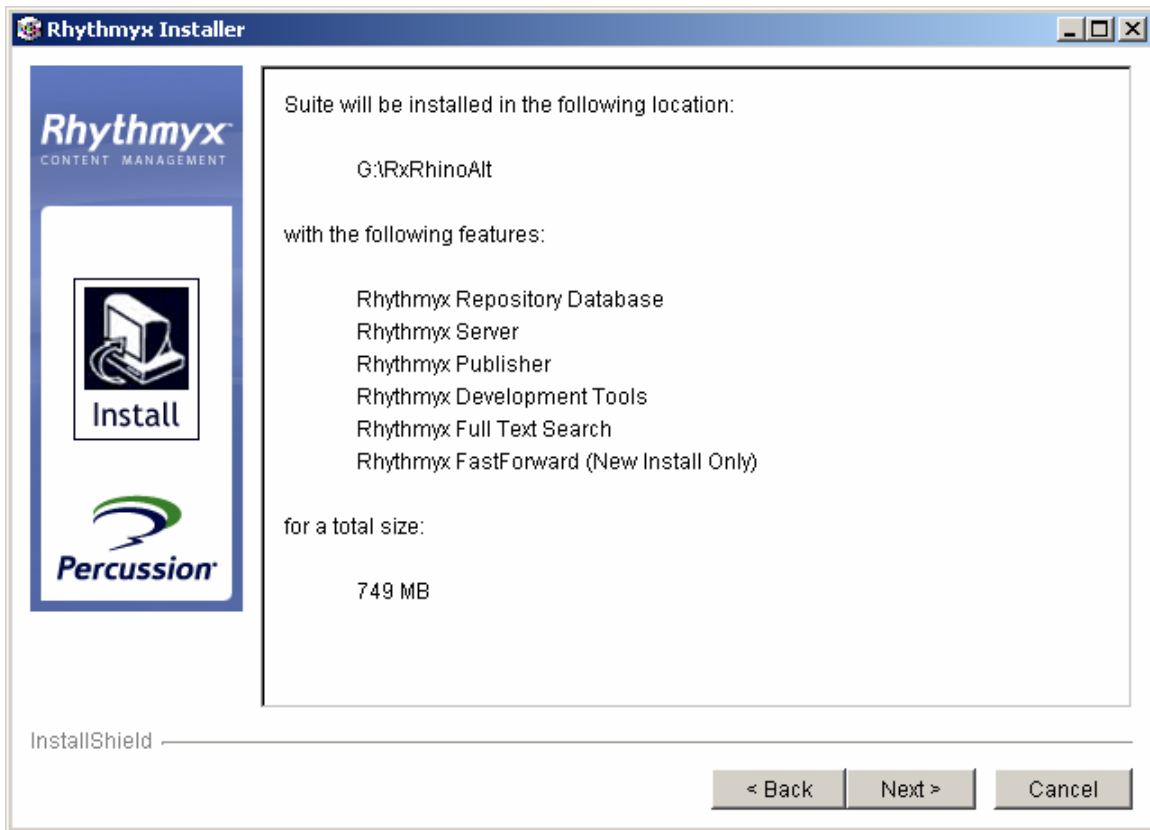


*Message displayed in command line mode if the installation wizard detects .cp files in the Rhythmyx installation directory*

Click the [Next] button.



21. The installation wizard displays the installation summary dialog.



***Window confirming features you wish to install***

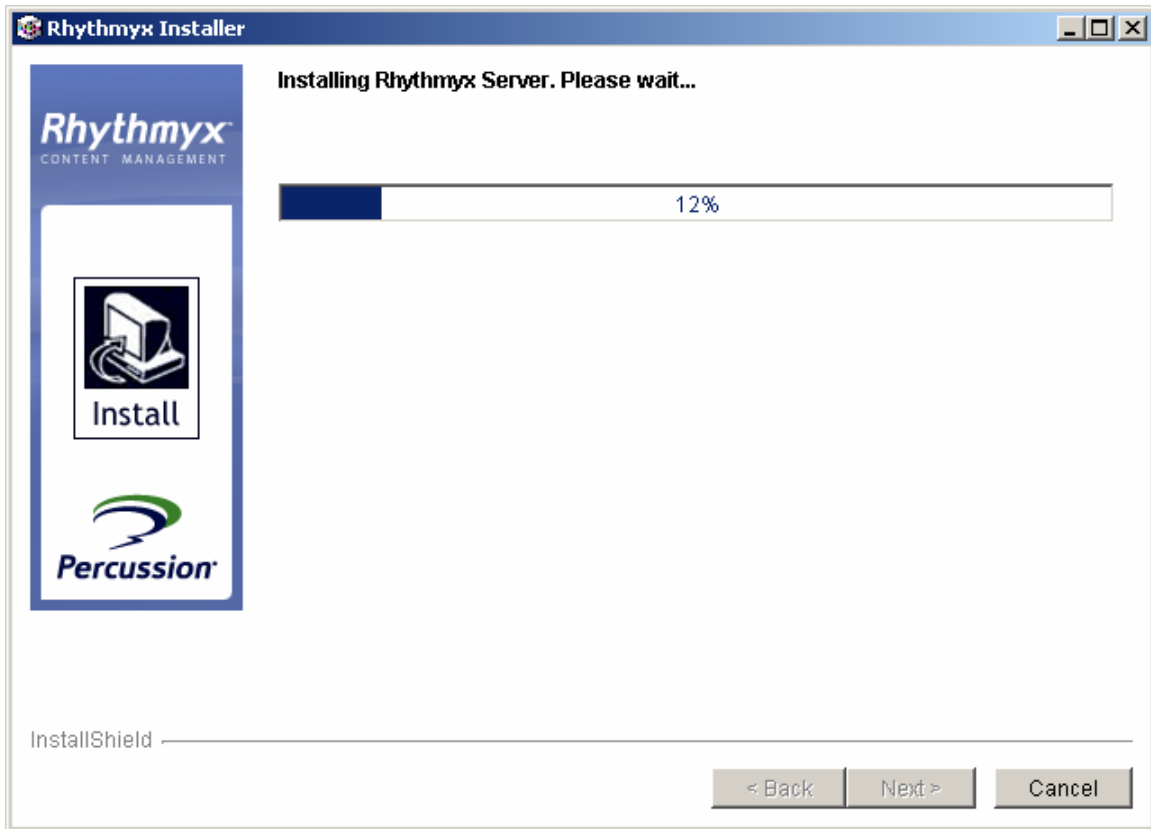
```
Suite will be installed in the following location:
/export/home/Rhythmyx
with the following features:
Rhythmyx Repository Database
Rhythmyx Server
Rhythmyx Publisher
for a total size:
281.5MB

Please press Enter to Continue
```

***Confirmation in command line mode of features you wish to install***

Click the [Next] button to launch the installation.

The installer will display pages for each configuration step and a progress meter while installing files.



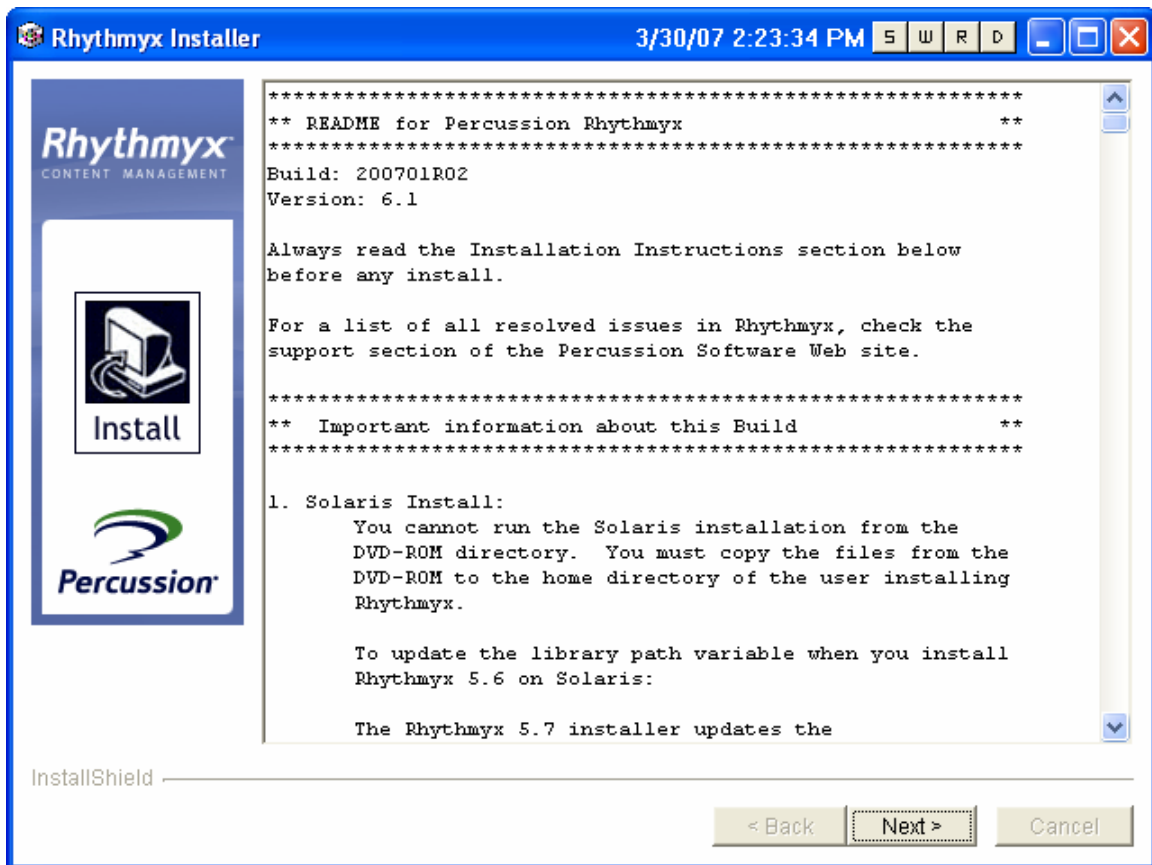
*Installing progress meter*

```
features:<blockquote>Rhythmyx Repository Database (OKB)
Rhythmyx Server (-
OKB)</blockquote>for a total size:<blockquote> OKB</blockquote>

Please press Enter to Continue
Installing Rhythmyx Repository Database...
```

*Progress meter in command line mode*

When installation is complete, Rhythmyx displays the readme.



*Window displaying the readme*

```

Please read the information below.

** README for Percussion Rhythmyx **

Build: 200701R02
Version: 6.1

Always read the Installation Instructions section below
before any install.

For a list of all resolved issues in Rhythmyx, check the
support section of the Percussion Software Web site.

** Important information about this Build **

1. Solaris Install:
 You cannot run the Solaris installation from the
 DVD-ROM directory. You must copy the files from the
 DVD-ROM to the home directory of the user installing
 Rhythmyx.
```

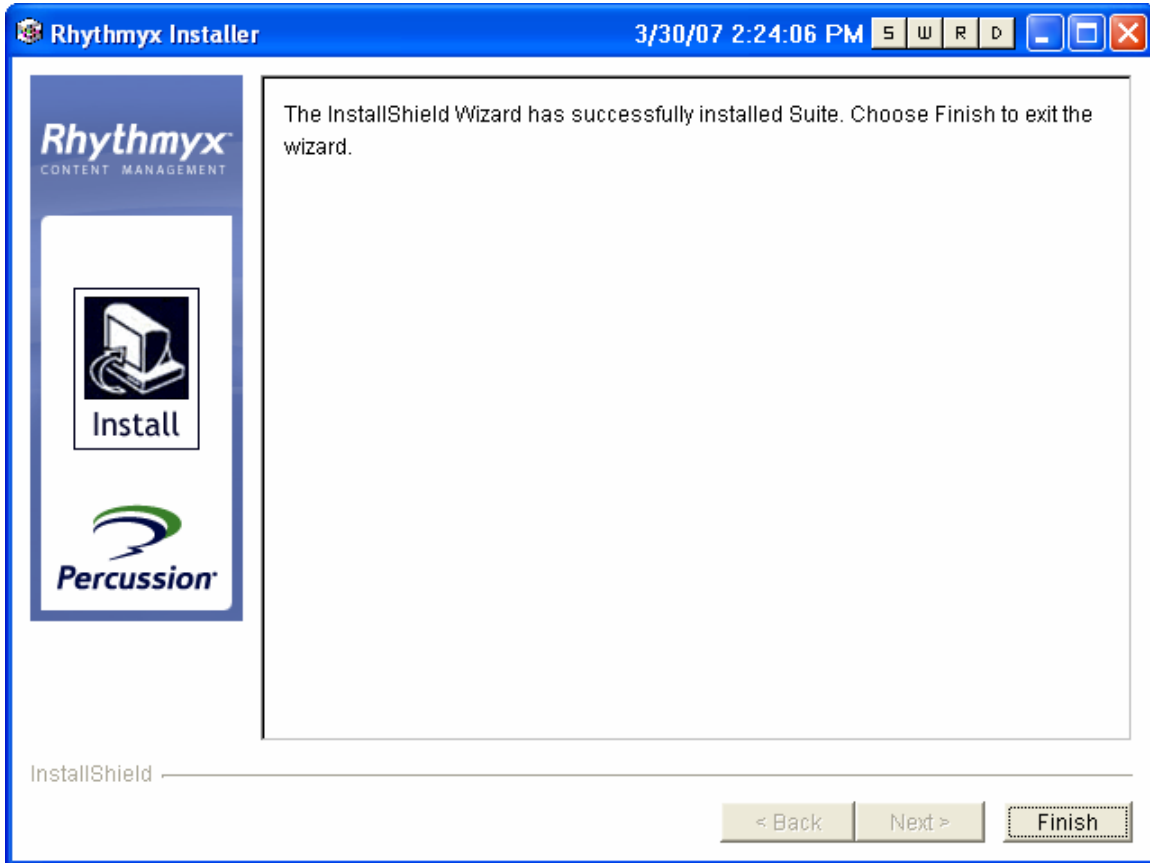
*readme in command line mode*

If the installer experiences an error while installing files it will display a message informing you of the error and the location of a detailed log file.



*Error window*

22. If the installation was successful, Rhythmyx will display a confirmation window.



*Window confirming successful installation*

```
Please press Enter to Continue

The InstallShield Wizard has successfully installed Suite. Click Next to
continue the wizard.

Please press Enter to Continue

Please read the information below.

You must now run the InstallDaemon.sh script located in the root of your
installation directory to complete the install. You must have root privileges
in order to run this script.
```

*Successful installation confirmation in command line mode*

**NOTE:** If you are installing to UNIX, you must run one of the following scripts to complete the installation:

- o If you are installing Rhythmyx server, run `/Rhythmyx/InstallDaemon.sh`
- o If you are installing only the Rhythmyx Publisher, run `/Rhythmyx/InstallPublisherDaemon.sh`

- o If you are installing only the full-text search engine, run `/Rhythmyx/FTSDaemon.sh`

## ***Indexing Full-text Search***

If you install the full-text search engine, you will need to create the search indices following installation. Until you create the search indices, searches will not return results.

Indexing can take several hours. Consider this fact when scheduling your upgrade installation.

To create search indices, enter the command:

```
search index type id
```

Where *id* is the Content Type ID of the Content Type you want to index. If you do not provide a value (in other words if you only enter the command `search index type`) all Content Types in your system will be indexed.

## ***Additional Procedures for Upgrade from Rhythmyx Version 5.7 and Earlier***

In Rhythmyx 5.7, standard practice when adding custom extension classes was to store the class and .jar files in the directly `<Rhythmyxroot>/lib` or `<Rhythmyxroot>/libextras` and list the extension files in a .cp file. In Rhythmyx 6.0, this practice no longer works because the new Web application server container includes its own class loader and does not reference .cp files.

Any customer extension class files should be moved to the following directories:

- Class files should be moved to the directory `rxapp.war/WEB-INF/classes`.
- Java archive files (.jar files) should be moved to the directory `rxapp.war/WEB-INF/lib`.

Note that any .cp files that exist in the installation directory will be moved to the directory `<Rhythmyxroot>/upgrade/rx_cp_files` during the upgrade process.

## Important Security Measures

**Important:** Every new Rhythmyx installation includes a backend Database Security Provider. The backend Database Security Provider includes the following default users for each Role:

| Role                 | Admin            | Author             | QA         | Editor             | Designer               | Artist             |
|----------------------|------------------|--------------------|------------|--------------------|------------------------|--------------------|
| <b>DEFAULT USERS</b> | admin1<br>admin2 | author1<br>author1 | qa1<br>qa2 | editor1<br>editor2 | designer1<br>designer2 | artist1<br>artist2 |

You can use every default user and the password 'demo' to access the Rhythmyx Server Administrator.

NOTE: The Admin Role also contains the Member *rxserver*. This Member is used internally in Rhythmyx as part of the Aging process. **DO NOT REMOVE THIS MEMBER UNDER ANY CIRCUMSTANCES.**

To prevent unintended access to your system choose one of the following options:

- assign new passwords to the default users, or
- replace the default users with new users.

### *Assigning New Passwords to Default Users*

To assign new passwords to the default users using SQL:

1. Open the USERLOGIN table in the database.
2. In the Password column, change the password for each default user.

Each new password becomes effective as soon as you enter it.

To assign new passwords to the default users using an Oracle SQL\*Plus application:

1. At the prompt change the password for the admin1 role by entering the following script:  

```
update userlogin set password='somethingnotdemo' where
userid='admin1' ;
```
2. Repeat for each default user, changing `userid` accordingly.

Each new password becomes effective as soon as you change it.

### *Replacing the Default Users with New Users*

NOTE: In addition to the default users *admin1* and *admin2*, the Admin Role also contains the Member *rxserver*. This Member is used internally in Rhythmyx as part of the Aging process. **DO NOT REMOVE THIS MEMBER UNDER ANY CIRCUMSTANCES.** If you remove this Member, Workflow authentication will fail.

To replace the default users with new users:

1. Open the USERLOGIN table in the database.
2. Add a new user to each role with the same permissions as the default users, but give the new users different names (such as 'anthonyadmin' and 'dianedesigner') and encrypted passwords.
3. After creating a new user for each role, delete the default users from your database.

## Rhythmyx Workbench Options

The Rhythmyx Workbench runs on the Eclipse platform. When the Workbench is installed (whether as part of a complete suite installation or with the other Developer Tools), it runs as a stand-alone executable application. (Note: Like all Developer Tools, the Workbench can only be installed to Microsoft Windows. Installation of the Workbench to Solaris or Linux is not supported.)

The Rhythmyx Workbench can also be added as a plugin to an existing Eclipse installation. Your Eclipse installation must meet the following criteria:

- Only Eclipse Version 3.0 and 3.1 are supported.
- You must have the Web Standard Tools (WST) plugin installed. Download the Web Standard Tools plugin from <http://download.eclipse.org/webtools/downloads/>. Use the version of WST appropriate to your version of Eclipse.
- The minimum supported JDK Version for Rhythmyx is version 1.5.

To add the Rhythmyx Workbench to Eclipse, unzip the following files to your Eclipse installation.

- RhythmyxWorkbench.zip
- RhythmyxWorkbenchHelp.zip

To access Rhythmyx, in Eclipse, open the Rhythmyx perspective. The Rhythmyx perspective will prompt you to log in to the Rhythmyx server.

NOTE: If you see an error similar to the following:

```
java.lang.UnsupportedClassVersionError:
com/percussion/workbench/ui/PSWorkbenchPlugin
(Unsupported major.minor version 49.0)
```

your Eclipse installation is using JRE Version 1.4. Upgrade the JRE to Version 1.5.

When you upgrade Rhythmyx, update your Rhythmyx plugin by unzipping the upgraded versions of RhythmyxWorkbench.zip and RhythmyxWorkbenchHelp.zip to your Eclipse installation.



## Installing the Rhythmyx Sample Application Package

In Rhythmyx 5.01 and earlier, a set of sample Content Editor and Content Assembler applications was installed with Rhythmyx by default. These sample applications are not compatible with Rhythmyx FastForward, and have been deprecated. They are no longer installed by default.

NOTE: Because FastForward and the Deprecated Samples are not compatible, the Deprecated Samples archive should not be installed on a Rhythmyx server on which you have installed or deployed FastForward.

Some Rhythmyx features, such as the Rhythmyx Connector for BEA WebLogic Portal and Rhythmyx Connector for IBM WebSphere portal, are based on these samples. Therefore, a Multi-server Manager archive containing these sample applications is included in the Rhythmyx installation in the following directory: <rhythmyxroot>/Samples. The name of this archive is DeprecatedSamples.pda.

Use Multi-server Manager to install this archive. No special process is required. You can accept all defaults.

Once you have installed the archive, you will need to make some adjustments to your environment before the sample applications will work correctly.

- Add the required Roles to the Rhythmyx server
- Update the Automated Index Keyword Values with the correct Variant IDs for the Article and Brief Content Types.

### *Adding Required Roles to the Rhythmyx Server*

The Deprecated Sample applications rely on a set of standard Rhythmyx Roles (listed below with the standard members for each Role):

- |                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                       |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"><li>• Admin<ul style="list-style-type: none"><li>▪ admin1</li><li>▪ admin2</li></ul></li><li>• Author<ul style="list-style-type: none"><li>▪ author1</li><li>▪ author2</li></ul></li><li>• Editor<ul style="list-style-type: none"><li>▪ editor1</li><li>▪ editor2</li></ul></li></ul> | <ul style="list-style-type: none"><li>• Artist<ul style="list-style-type: none"><li>▪ artist1</li><li>▪ artist2</li></ul></li><li>• Designer<ul style="list-style-type: none"><li>▪ designer1</li><li>▪ designer2</li></ul></li><li>• QA<ul style="list-style-type: none"><li>▪ qa1</li><li>▪ qa2</li></ul></li></ul> |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

You must create these Roles in the Rhythmyx server. For details about creating these Roles on the Rhythmyx server, see “Maintaining Server Roles” in the Rhythmyx document *Maintaining Workflows*; or see, from the Workflow tab of Content Explorer, access Help and see “Maintaining Server Roles”.

## **Percussion Technical Support**

Contact Percussion Technical Support by phone or e-mail.

### **Boston**

600 Unicorn Park Drive

Woburn, MA 01801 U.S.A.

8:30 AM to 6 PM EST, Monday - Friday

Phone: 781.438.9900

Toll Free: 800.283.0800

Fax: 781.438.9955

Email: [technical\\_support@percussion.com](mailto:technical_support@percussion.com)

### **London**

2 Soho Square

London W1D 3PX U.K.

8:30 AM to 6 PM GMT, Monday - Friday

Phone:(+44) (0) 207.334.5900

Fax: (+44) (0) 207.437.5940

Email: [technical\\_support\\_UK@Percussion.com](mailto:technical_support_UK@Percussion.com)