
Rhythmyx

Setting Up the Rhythmyx Production Environment

Version 6.5.2

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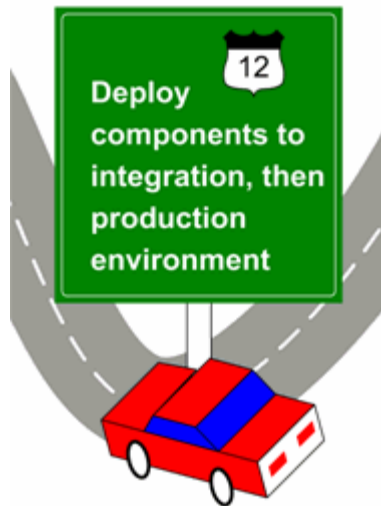
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CHAPTER 1

Setting Up the Production Environment



Setting up the production environment is the final phase of Rhythmyx implementation. In this phase, you set up a production Rhythmyx server, and deploy your implementation from the development environment to the production environment. Once you have completed the deployment, you can begin adding your content to the production server, test it, and go live. Setting up production takes place after you have completed implementation of the Rhythmyx objects specified during your modeling and design process.

In many cases, customers also set up additional servers for staging or quality assurance testing. These servers should be exact replicas of the production server. Use the the same procedures to set up those servers.

Before performing the tasks detailed in this document, you should have read and completed the tasks described in the *Rhythmyx Implementation Guide* (including any prerequisite documents and tasks for that manual). If your development plan called for special implementations (such as WebDAV, internationalization and localization, or Web services), you should have read the appropriate documents and completed those implementation tasks as well.

Implementing a Tiered Rhythmyx Environment

Percussion Software strongly recommends the use of a multi-tiered environment. Your Rhythmyx environment should consist of at least two, and preferably three tiers:

- **Development tier**
The development tier is the environment in which you implement modifications to your system and develop new implementations.
- **Integration tier**
The integration tier is an intermediate tier in which you merge design elements developed on different development servers to ensure that they function together correctly.
- **Production tier**
The production tier is the Rhythmyx server that your end users will access to create and maintain live content.

Separating these tiers offers a variety of benefits. As you continue to develop your Rhythmyx implementation, you do not want to expose new Rhythmyx design elements to your end users until you have completed development of these elements and validated them. Newly developed elements can also introduce instability into the system, which you do not want to expose to the production server. Implementing a production environment separate from your development environment avoids these problems.

Implementing an integration tier adds an additional layer of safety to your system. If you have multiple developers working on your Rhythmyx implementation, you should always deploy new design elements to this tier first to ensure that they work together as intended. Once you have validated that new elements function correctly in this environment, you can deploy them to the production environment.

While this document emphasizes the implementation of a production environment, you can use the same processes and procedures to set up the integration environment. In fact, recommended practice after going live is to deploy any archives created in the development tier to the integration tier first so you can validate them deploying them to the production tier.

Process Overview

The process of setting up the production environment involves the following phases:

- 1 Creating Multi-server Manager (MSM) deployment archives in the development environment
- 2 Installing Rhythmyx to the production server machine.
- 3 *Implementing Security in the Production Environment* (see page 59)
- 4 *Installing the MSM deployment archives to the production environment.* (see "Installing Implementation Multi-server Manager Archives on the Production Server" on page 51)
- 5 *Implementing Publishing in the production environment.* (see "Setting Up Publishing in the Production Environment" on page 79)
- 6 *Quality Assurance Testing the Production Environment* (see page 111).
- 7 *Going live* (see page 113).

This document includes a chapter describing each of these phases.

CHAPTER 2

Creating Multi-Server Manager Archives in the Development Environment

Recommended practice for deploying an implementation between tiers is to use Rhythmyx Multi-Server Manager (MSM). To use this tool, you create special packages, or archives, that include the applications you want to deploy. You then deploy these packages to a target server.

Archives can be built from scratch or based on archive templates called descriptors. Percussion Software, Inc. supplies a set of pre-defined MSM descriptors to support FastForward. You can use the FastForward descriptors as a base to build your new archives and to build new descriptors.

FF1_Workflows_65

FF2_Slots_65

FF3_Templates_ContentTypes_65

FF4_Slots_65

FF5_Publish_65

FF6_Communities_65

FF7_ImplementationElements_65

(NOTE: The suffix "_65" indicates that these descriptors were developed for use with Rhythmyx Version 6.5 and later and are incompatible with earlier versions of Rhythmyx.)

Note that the list includes two Slots descriptors. Templates cannot be installed successfully unless Slots already exist. No association is created between the Slots and the Templates when the Templates are installed. The second Slots descriptor defines these associations.

For full details about using Rhythmyx Multi-Server Manager, see the document *Rhythmyx Multi-Server Manager*.

Registering Your Development Server

Before you can do any work with Multi-Server Manager, you must register the servers you want to work with. To register a server:

- 1 Start Multi-Server Manager.

Multi-Server Manager is included in your Rhythmyx program group. To start Multi-Server Manager, click the Windows [Start] button, and choose *Programs > Percussion Rhythmyx > Rhythmyx Multi-server Manager*.

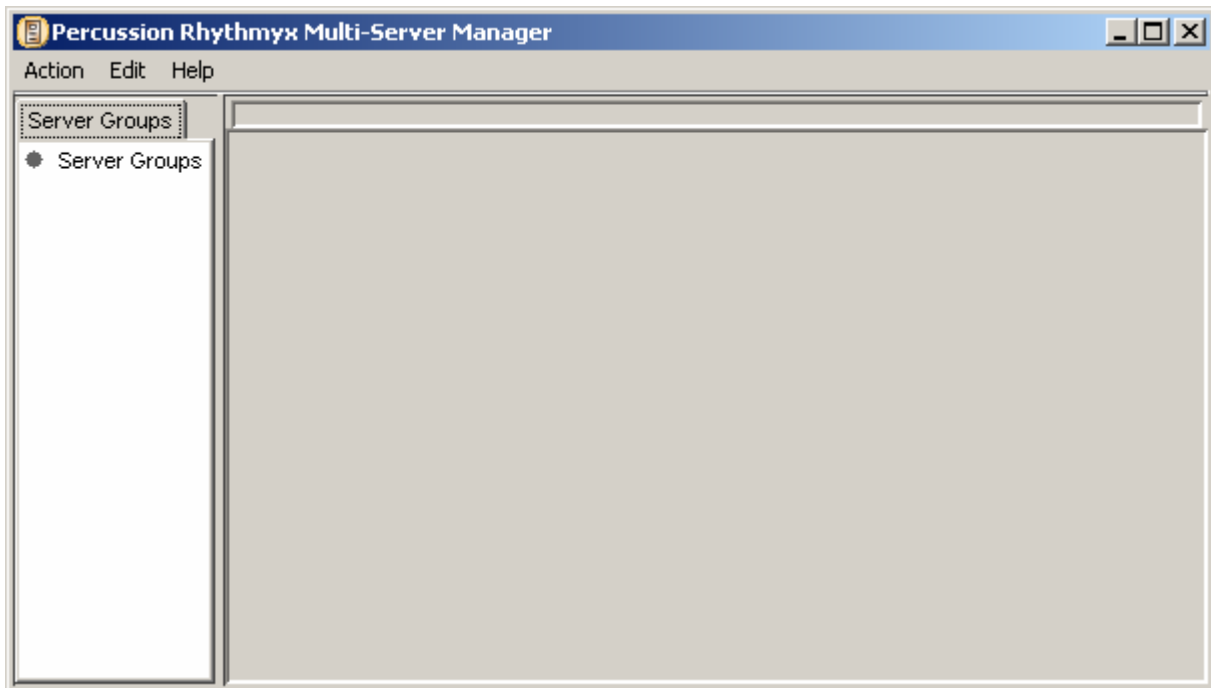


Figure 1: Multi-server Manager when first accessed.

- 2 In the Menu bar, choose *Action > Register Server*.

Rhythmyx displays the Edit/New Rhythmyx Server Registration dialog.

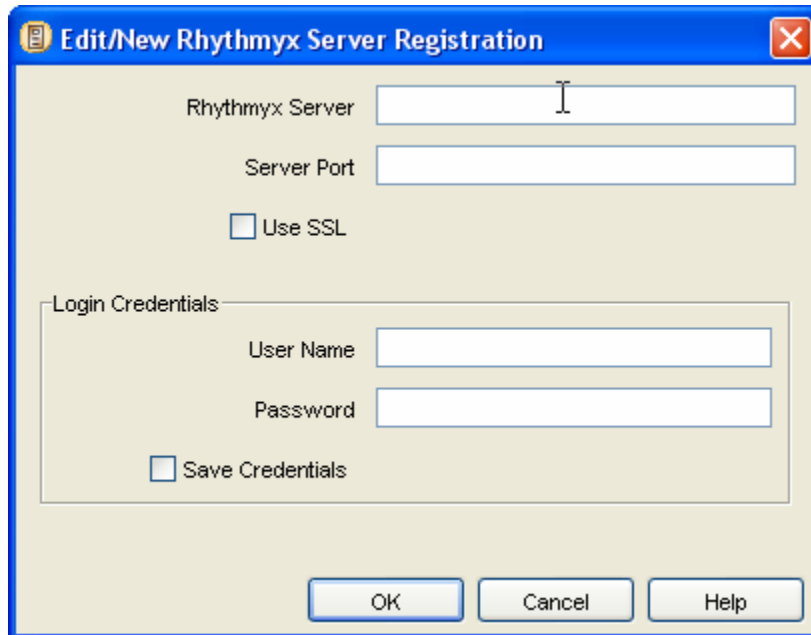
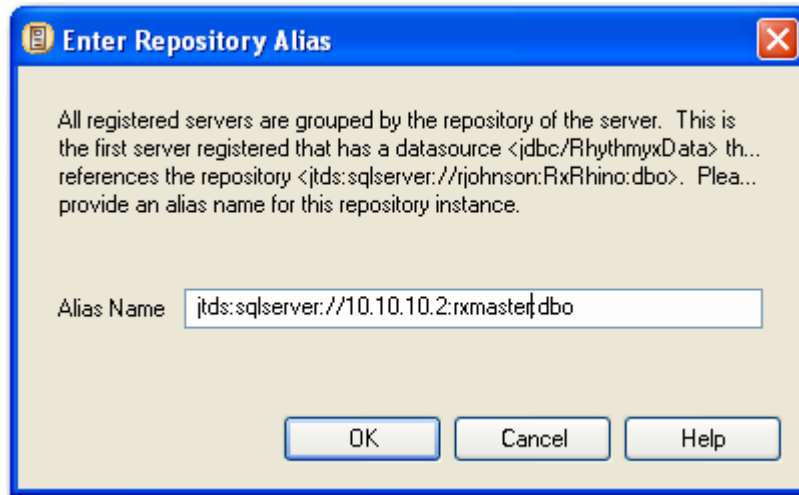
The image shows a Windows-style dialog box titled "Edit/New Rhythmyx Server Registration". It has a blue title bar with a close button (X) on the right. The dialog contains several input fields and checkboxes. At the top, there is a "Rhythmyx Server" text box with a cursor. Below it is a "Server Port" text box. A checkbox labeled "Use SSL" is positioned below the "Server Port" field. A section titled "Login Credentials" is enclosed in a rounded rectangle and contains a "User Name" text box, a "Password" text box, and a "Save Credentials" checkbox. At the bottom of the dialog are three buttons: "OK", "Cancel", and "Help".

Figure 2: Edit/New Rhythmyx Server Registration Dialog

- 3 Enter the following data:
 - In the Rhythmyx Server field, enter *localhost* (or the name or IP address of the machine where you installed your Rhythmyx server).
 - In the Server Port field, enter *9992* (or the port you specified for your server when you installed Rhythmyx).
 - In the User Name field, enter *admin1*.
 - In the Password field, enter *demo*.
- 4 Click the [OK] button to save the server registration.

- 5 Rhythmyx displays the Enter Repository Alias dialog with the default alias for your repository. Click the [OK] button to accept this Repository alias.



Rhythmyx adds the Repository Alias and server to the Server groups pane of the Multi-server Manager dialog.

Building Multiple Deployment Archives for a Customized FastForward Implementation

Percussion Software recommends that you build a series of deployment archives based on the supplied descriptors. Deploying your implementation as a series of archives provides security in case a specific archive fails. In that case, you can roll back your system to the state before you installed the defective archive. (Note that rolling your system back also implies that you should back up your system after each successful deployment.) This approach also makes it easier to identify the specific package that failed, since the archive contains fewer packages to review when attempting to locate the defective package.

Percussion Software has tested these descriptors to validate that archives built from these descriptors can be deployed successfully. You can build the archives in any order, but should deploy the archives in the specified order. The order in which you deploy archives, and their packages, is critical. Any dependencies a package requires must exist when installing the package or the package will fail. The order specified in the descriptor names conforms to best practices when deploying archives to ensure that required dependencies exist for each archive.

Simple Example of Archive Creation

This procedure walks you through the process of creating a Multi-Server Manager archive based on one of the FastForward descriptors. Whenever possible you should use the supplied descriptors, adding new elements from your local implementation to the archive. You also have the option of creating a new descriptor. Select the descriptor that matches the Rhythmyx elements you want to deploy.

In this case, we will create an archive to deploy an example Job Listing Content Type (rffJobListing) and associated Templates. Creation of archives to deploy other system elements uses an identical process, but are based on different descriptors.

We will assume that Multi-Server Manager is already running and that you have registered your development server. If you have not registered your development server, see ***Registering Your Development Server*** (on page 8).

To create the Content Type archive:

- 1 In the Multi-Server Manager Menu bar, choose *Action > Create Archive*.

Multi-Server Manager displays the first dialog of the Create Archive Wizard. This dialog outlines the procedure.



Figure 3: Create Archive/Descriptor Wizard, first screen

- 2 Read the text on the opening dialog of the wizard and click the [Next] button.
Multi-Server Manager displays the Choose server dialog.
- 3 In the Server drop list, select *localhost:9992* (note that you may have to enter login credentials to connect to the server).
- 4 Check the Use existing descriptor checkbox, and in the Descriptor drop list, select *FF3_Templates_ContentTypes_65*.

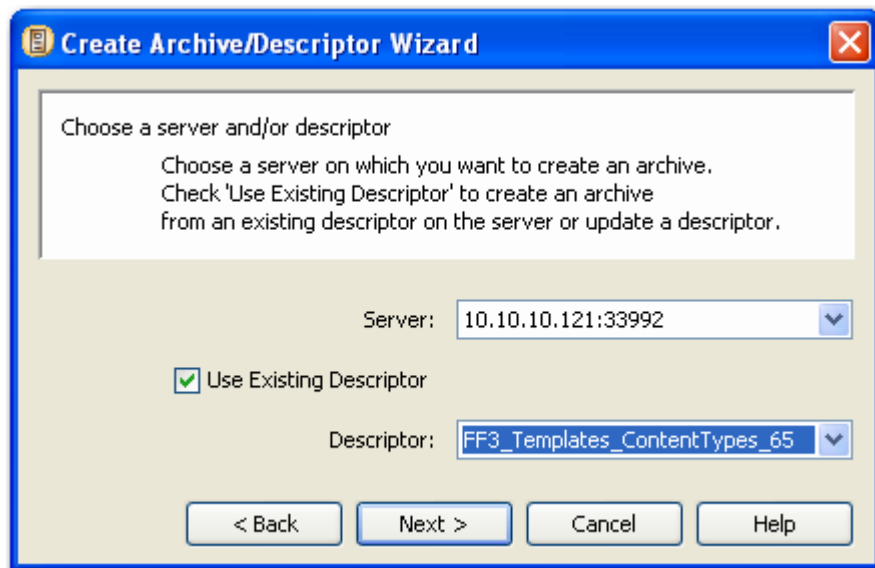


Figure 4: Choose Server and Descriptor Dialog showing server as localhost:9992 and FF3_Templates_ContentTypes as the Descriptor

- 5 Click the [Next] button.

Multi-Server Manager displays the Choose create mode dialog with the Typical radio button selected.

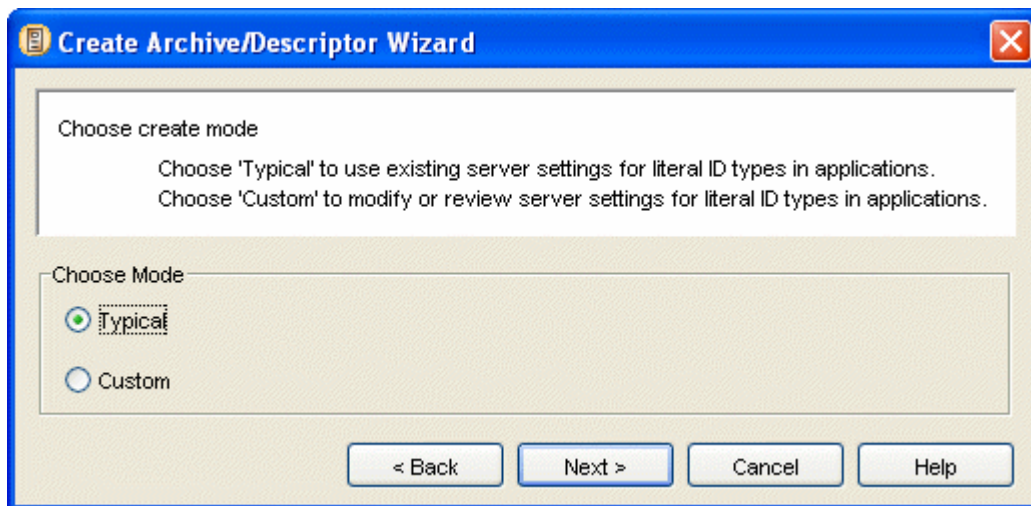


Figure 5: Create Archive/Descriptor Wizard, Choose Create Mode

- 6 We are using typical mode to create the archive, so leave the **Typical** radio button selected and click the [**Next**] button.

Multi-Server Manager displays the Add elements to the archive dialog. The FF3_Template_ContentTypes_65 descriptor already lists the standard FastForward Content Types, such as rffGeneric, rffBrief, rffPress Release and rffNavon, in the Elements to Package field. We must add the rffJobListing Content Type to that field to deploy it as well. To add the rffJobListing Content Type:

- a) In the Available Elements list, expand the Rhythmyx elements node, then expand the Content Types node.

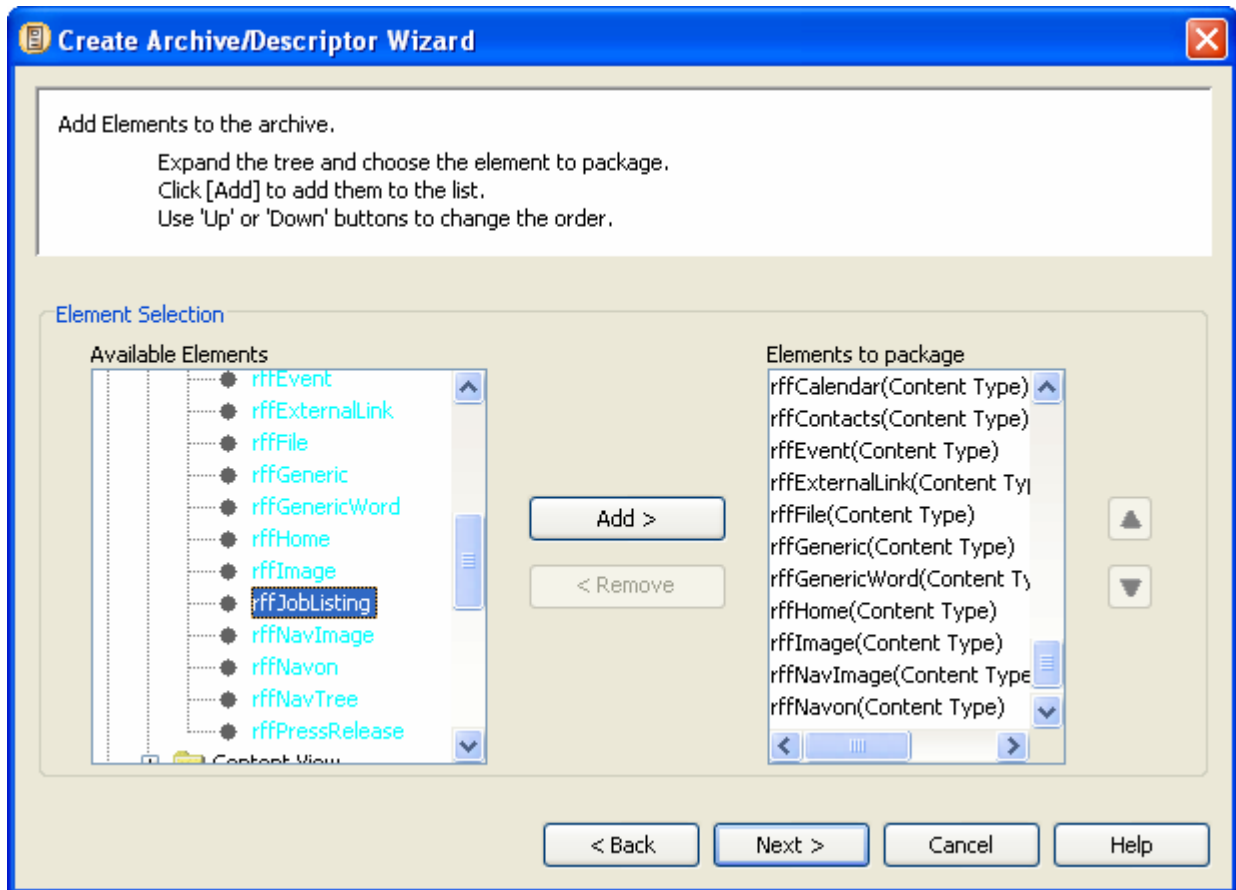


Figure 6: Add Elements to Archive dialog showing list of available Content Types. Note that the Job Listing Content Type has not yet been added to the list of elements to archive.

- b) Select the Job Listing Content Type. Note that if we wanted to add other Content Types to the archive, we could select all of them.
- c) Click the [Add >>] button.

Multi-server Manager adds the Content Types you selected to the Elements to package list.

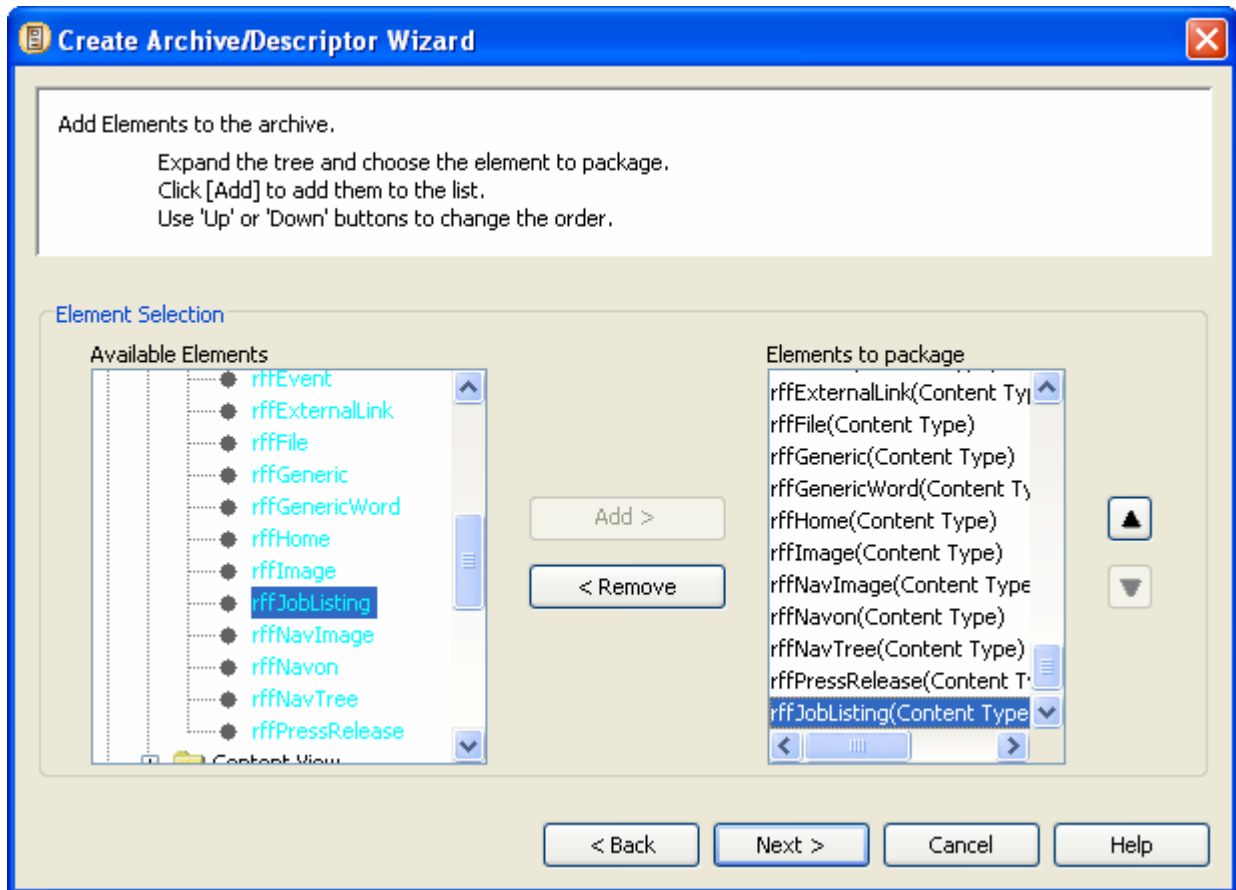


Figure 7: Add Elements to Archive dialog showing Job Listing Content Type added to the list of elements to archive.

7 Click the [Next] button.

In some cases (usually when packaging Action Menu Entries), Rhythmyx displays the Identify ID Types dialog. For details about identifying ID Types, see the document *Rhythmyx Multi-Server Manager* or the Multi-Server Manager Help.

Multi-Server Manager displays the Identify ID Types dialog.

8 This dialog lists all numeric values in object definitions that could be identifiers, and for which no identifier type has been defined. You must specify whether each value is an identifier. If a value is an identifier, you must specify the type of identifier so so Multi-Server Manager can convert correctly when installing the Archive.

In the `rffJobListing` Content Type, one value has been discovered that must be typed. The description tells us that this value defines the Max Length of a field, so it is clearly not an identifier, and we type it as Not an ID.

The most common place to find identifiers is in Action Menu Entries, especially Entries associated with a specific Site. These Entries typically include the Site ID, which would be described as the param `"sys_siteid"`.

When you have finished specifying ID types, click the [**Next**] button.

9 Click the [**Next**] button.

Multi-Server Manager displays the Choose Dependencies and Ancestors to include with this Element dialog.

For each package in the **Packages** field, the large unlabelled field to the left displays all of the dependencies that are required for it to be installed without error and to run correctly once installed. Some of these dependencies will be unavailable because they are system elements (such as Content Editor Controls) or automatically included with the package by default (such as the Content Type Definitions). Others are available for you to choose to include. For the Job Listing Content Type, these dependencies include:

- The following Communities:
 - Corporate_Investments
 - Corporate_Investments_Admin
 - Enerprise_Investments
 - Enerprise_Investments_Admin
- The Standard Workflow
- The System Definition (the Content Editor System Definition XML file)
- The "shared" shared field group
- The Departments Keyword
- The CT_RFFJOBLISTINGS table schema.

- 10 We will include the Departments Keyword, the CT_RFFJOBLISTINGS table schema, and the "shared" shared field group. Check the boxes next to these two options. We will assume that the Standard Workflow will be installed with another archive, so we will not include it with this one. Generally, the System Definition is always installed as part of Rhythmyx, so there should be no need to include it in any archives unless it has been modified.

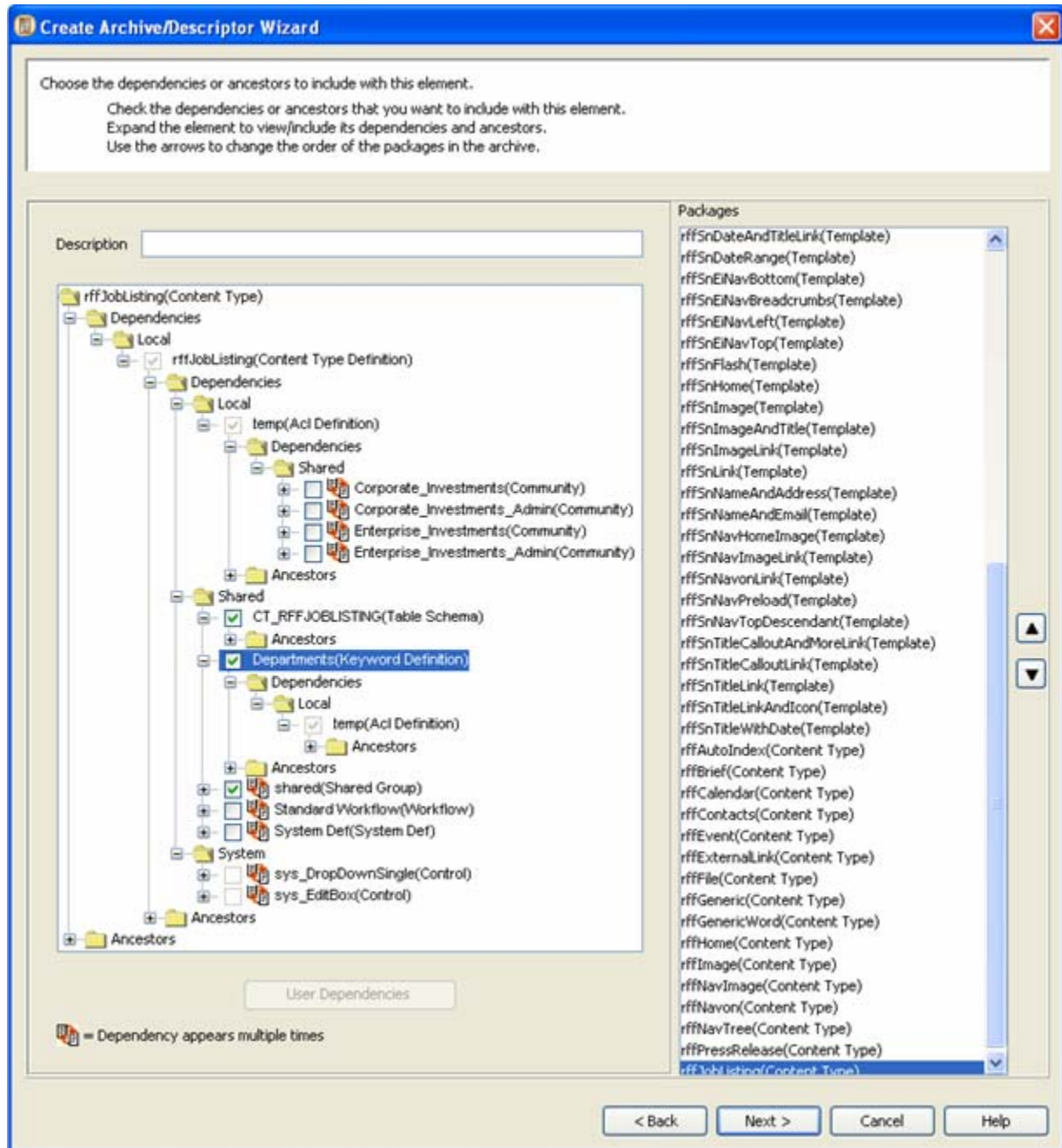


Figure 8: Choose Dependencies to Include dialog showing recommended choices for the Job Listing Content Type package

- 11 Repeat step 10 for each Content Type and Template included in the archive. If you follow recommended practice and build archives based on each of the supplied descriptors, you will be able to omit Workflows and Roles from this archive since they will be packaged in another archive. Include any table schemas, shared definitions, and keywords required for your Content Types. When you have defined the dependencies for each package, click the **[Next]** button.
- 12 Click the **[Next]** button.

Multi-Server Manager displays the Create archive or descriptor dialog.
- 13 The value in the Description field, *MSM Archive for Content Types*, defaults from the *FF3_Templates_ContentTypes* descriptor. You can change this value if you wish.
- 14 In the Save to archive field, enter *FastForwardTemplateAndContentTypeArchive*. The suffix *.pda* will be attached to the file name automatically. You do not need to add a suffix to the name of the archive.
- 15 We will create the archive in the default location (the root directory of the Rhythmyx installation). If you want to create the archive in another location, click the browse button and browse to that location.
- 16 By default, the Save descriptor checkbox is checked. We will leave this box checked, and enter the name *FFTemplateContentTypeDescriptor* in the Descriptor name field to create a new descriptor.

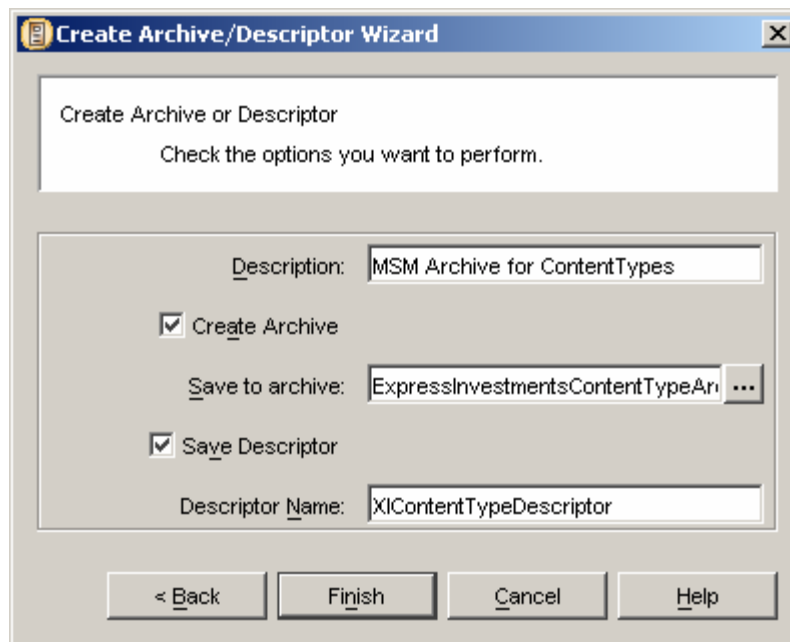


Figure 9: Create Archive and Descriptor dialog with data for *XIContentTypes* archive and descriptor

- 17 Click the **[Finish]** button.

Multi-Server Manager begins creating the archive. Depending on the type of elements you are packaging in the archive, and the number of packages you are including in the archive, creating the archive may take several minutes. Multi-Server Manager displays a progress dialog to inform you about the progress of the processing.

18 When processing reaches 100% complete, click the [**Close**] button on the progress dialog.

Browse to the root of the Rhythmyx directory (or other location where you created your archive) and find the file `FastForwardTempalteAndContentTypesArchive.pda`.

CHAPTER 3

Preparing the Production Server

Percussion Software strongly recommends that your production server be a unique installation of the Rhythmyx server on a different machine than your development server. Isolating your production server from your development environment ensures the stability of your production server.

The production server should be a robust system, at least meeting, and preferably exceeding, the minimum technical requirements for the system. For detailed technical requirements, see *Installing Rhythmyx*.

The process of installing a production server is very close to the process of installing a development server, but there are several installation options that are unnecessary, or even undesirable, in the production environment. These options include:

- Rhythmyx Development Tools (for example, Workbench, which you do not need in the production environment)
- Enterprise Content Connector (a special tool requiring a separate license; for details see the document *Rhythmyx Enterprise Content Connector*.)
- FastForward (You will be deploying your modified FastForward implementation to the production server; the production server should not include FastForward in your production server installation to minimize the possibility of conflicts between the shipped implementation and your modifications.)

This section includes detailed procedures for installing a production server in the following environments:

- Microsoft Windows, with Microsoft SQL Server as the Repository database
- Sun Solaris, with Oracle as the Repository database

Note that in addition to these example procedures, you can install Rhythmyx to any combination of supported operating system and supported RDBMS.

In each case, we make the following assumptions:

- The name of the Repository database or schema is *rxmaster*.
- The Full-text Search Engine will be installed on the same machine as the Rhythmyx server.

Installing a Production Server in Windows

For the purpose of this procedure, we assume Rhythmyx server and SQL server are installed on the same machine. We will perform the installation using the graphical user interface.

To install a production Rhythmyx server:

- 1 Insert the Rhythmyx CD-ROM into the computer's CD-ROM drive.
- 2 In Windows Explorer, browse to the Setup directory on the CD-ROM and double-click on setup.exe.

The Rhythmyx installer launches and displays the first dialog of the installation wizard.

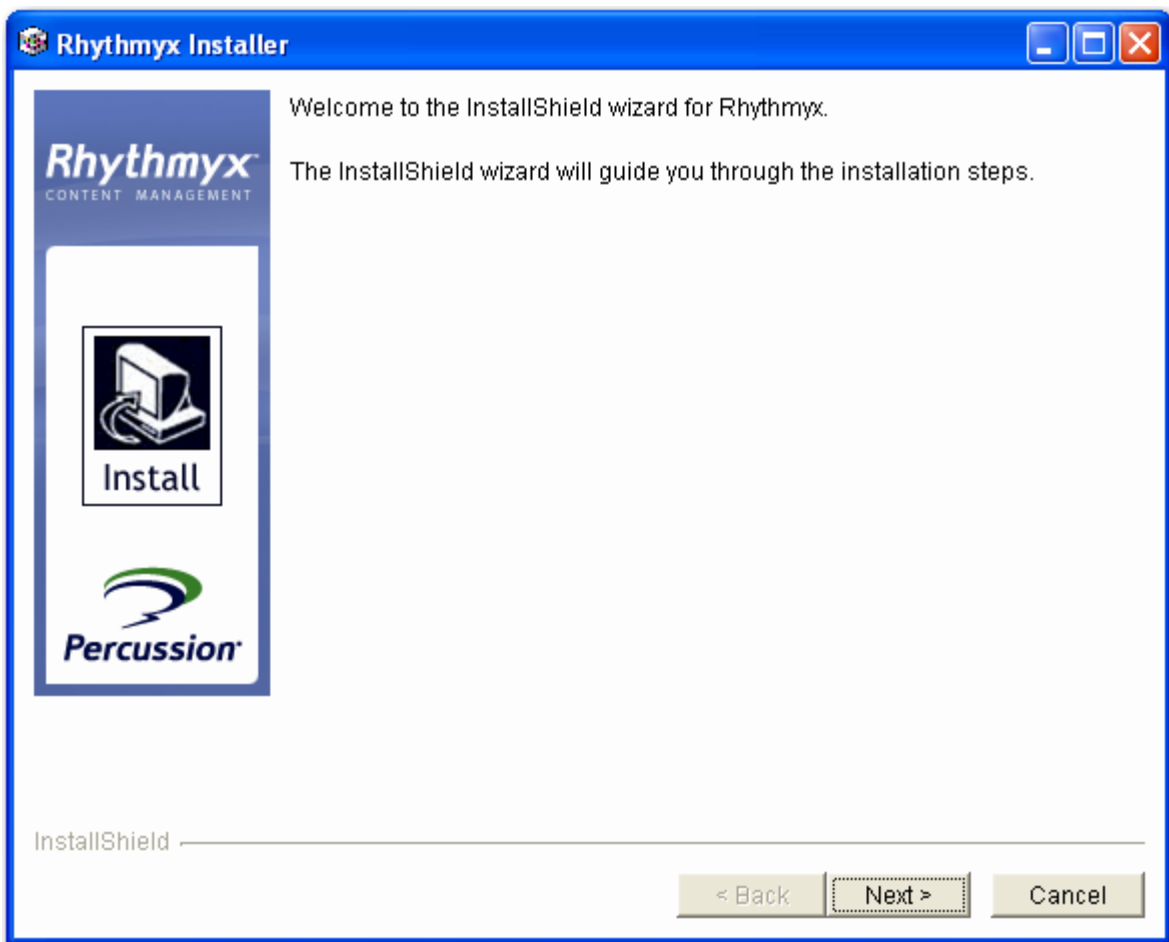


Figure 10: Welcome screen

- 3 Click the [Next >>] button.

The installation wizard displays the license agreement dialog.

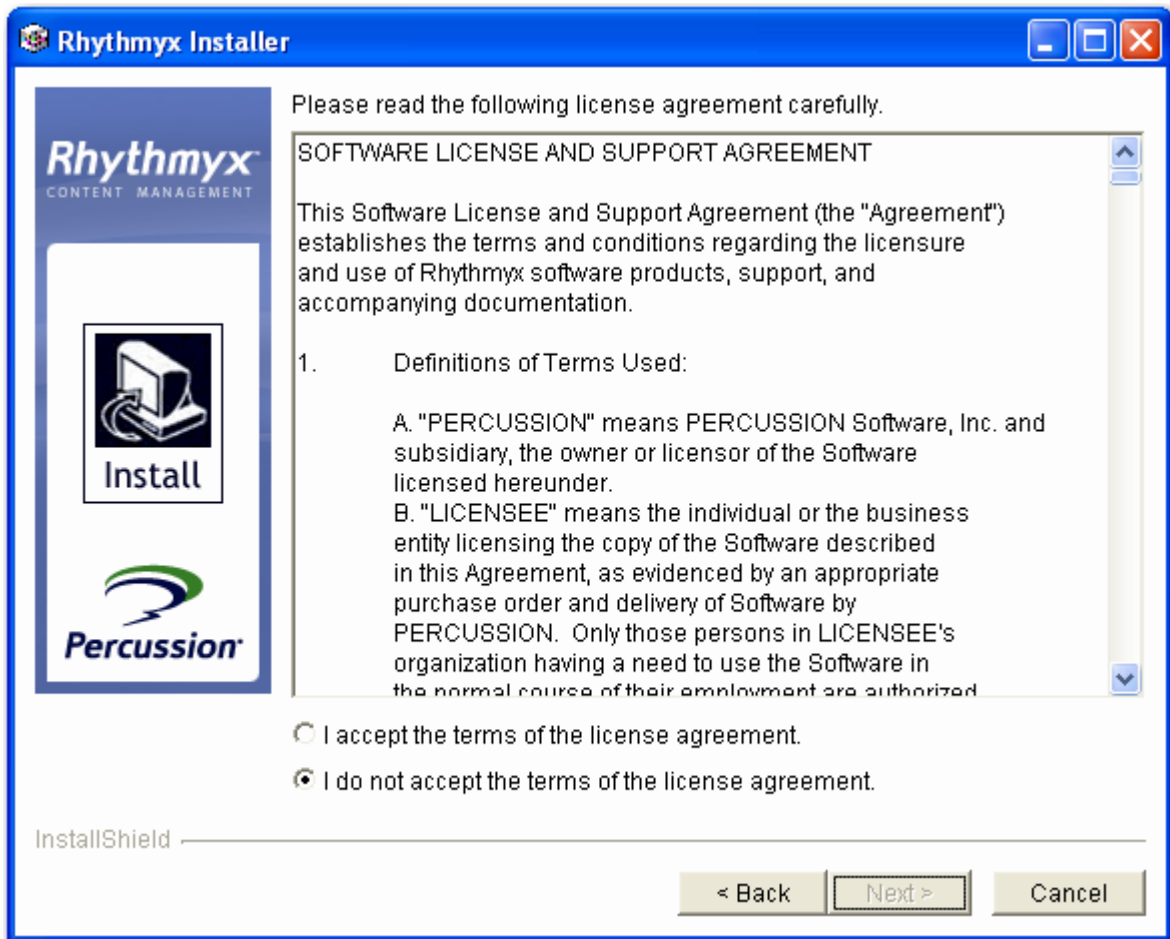


Figure 11: License agreement

- 4 Click the I accept the terms of the license agreement radio button and click the [Next >>] button.

The installation wizard displays the Choose Installation Type dialog.

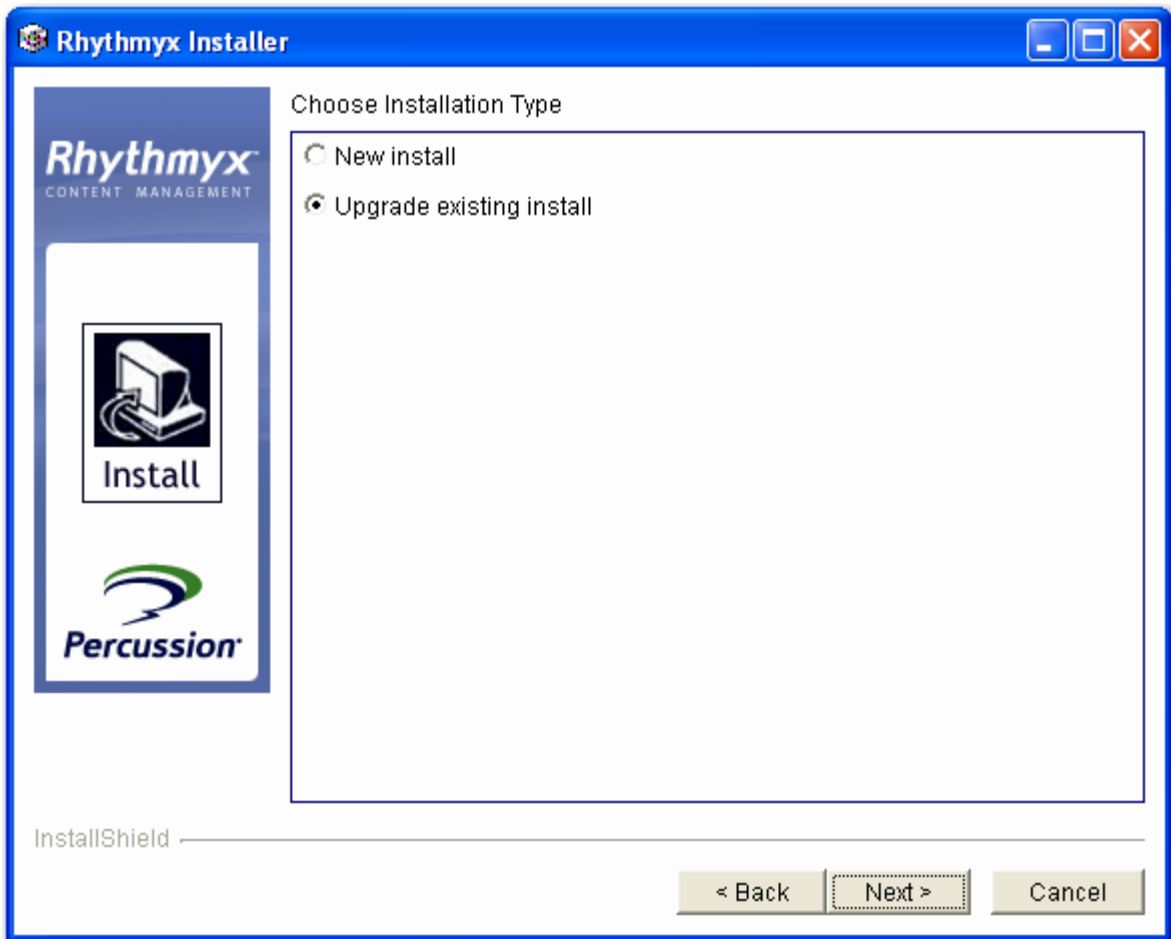


Figure 12: Installation Type dialog

- 5 If you have not installed Rhythmyx on this machine before, the default option is the New Install radio button. Select this button if it is not already selected. Click the [Next >>] button.

The installation wizard displays the Installation Directory dialog.

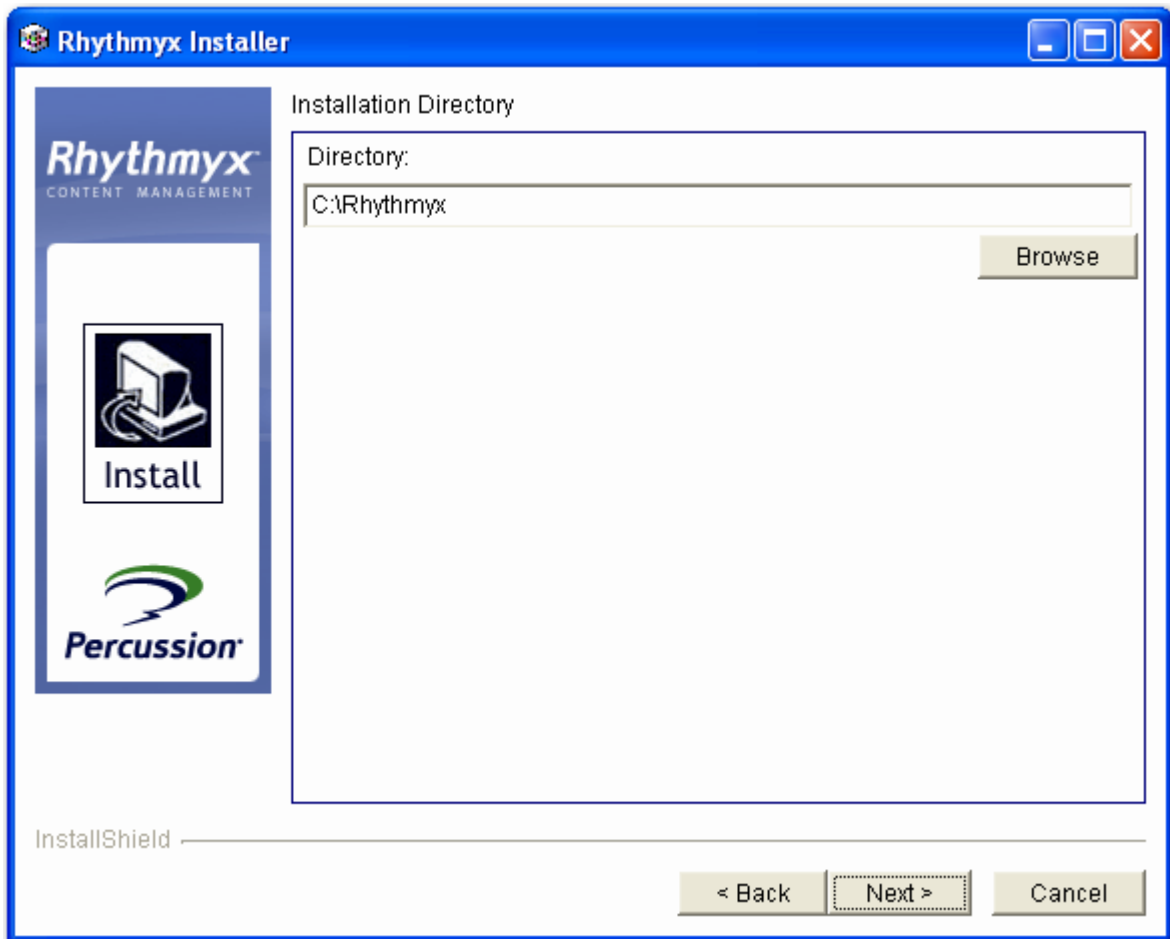


Figure 13: Installation Directory screen

- 6 The Directory field defaults to `C:\Rhythmyx`. If you want to install to a different directory, you can enter it in the Directory field, or click the **[Browse]** button and browse to the location where you want to install Rhythmyx. Once you have defined the directory where you want to install, click the **[Next >>]** button.

If the directory does not already exist, the installation wizard will ask if you want to create the directory. Click the **[Yes]** button to create the directory.

- 7 Click the **[Next >>]** button.

The installation wizard displays the Select the products you would like to install dialog.

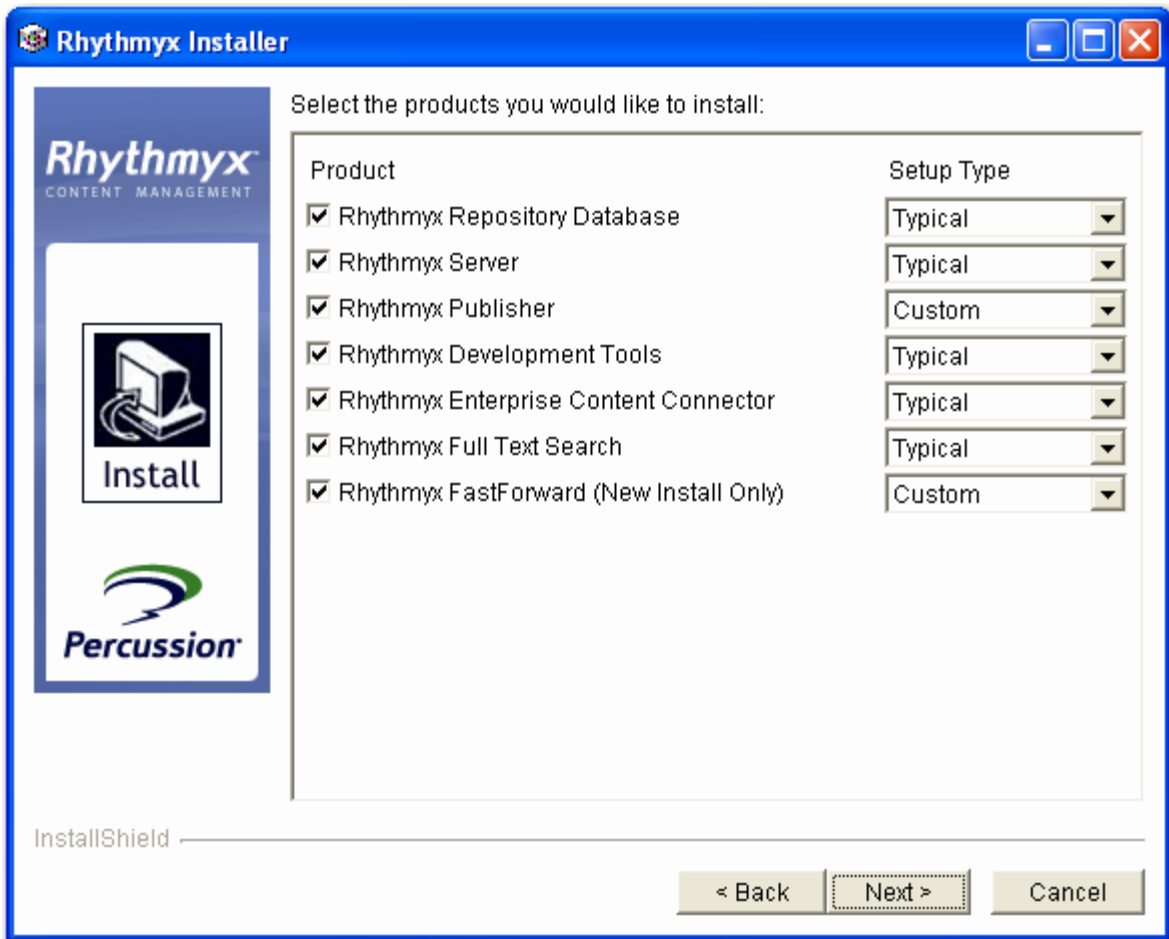


Figure 14: Select the products you would like to install dialog

8 Uncheck the following options:

- Rhythmyx Development Tools
- Enterprise Content Connector
- Rhythmyx FastForward (You will be deploying your modified FastForward implementation to this server.)

The following screenshot shows the recommended configuration of this dialog for production server installation:

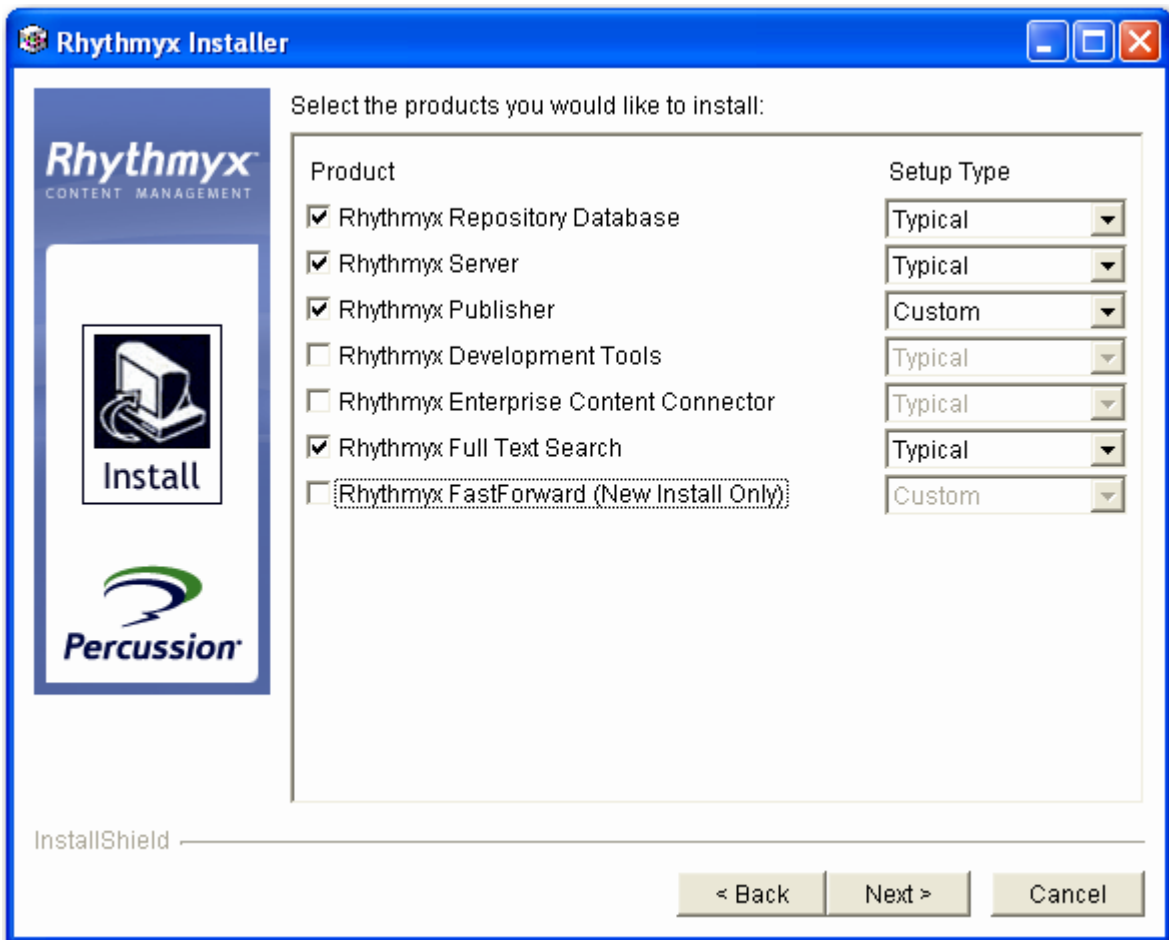


Figure 15: Recommended configuration for production server installation

- 9 Click the [Next >>] button.

The installation wizard displays the Select Publisher Features dialog.

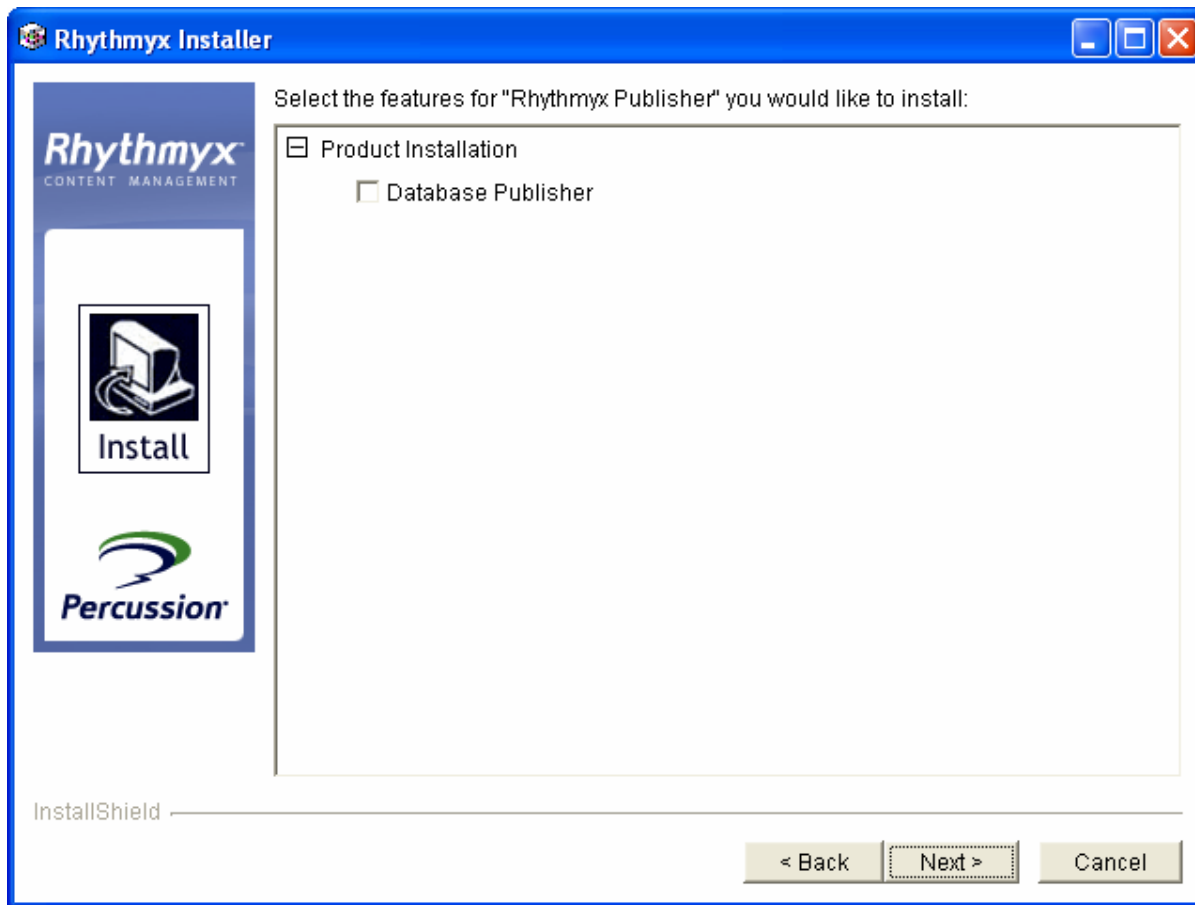


Figure 16: Select Publisher Features dialog

10 Leave all boxes on this dialog unchecked. Click the [**Next >>**] button.

The install wizard displays the Rhythmyx Server Type dialog.

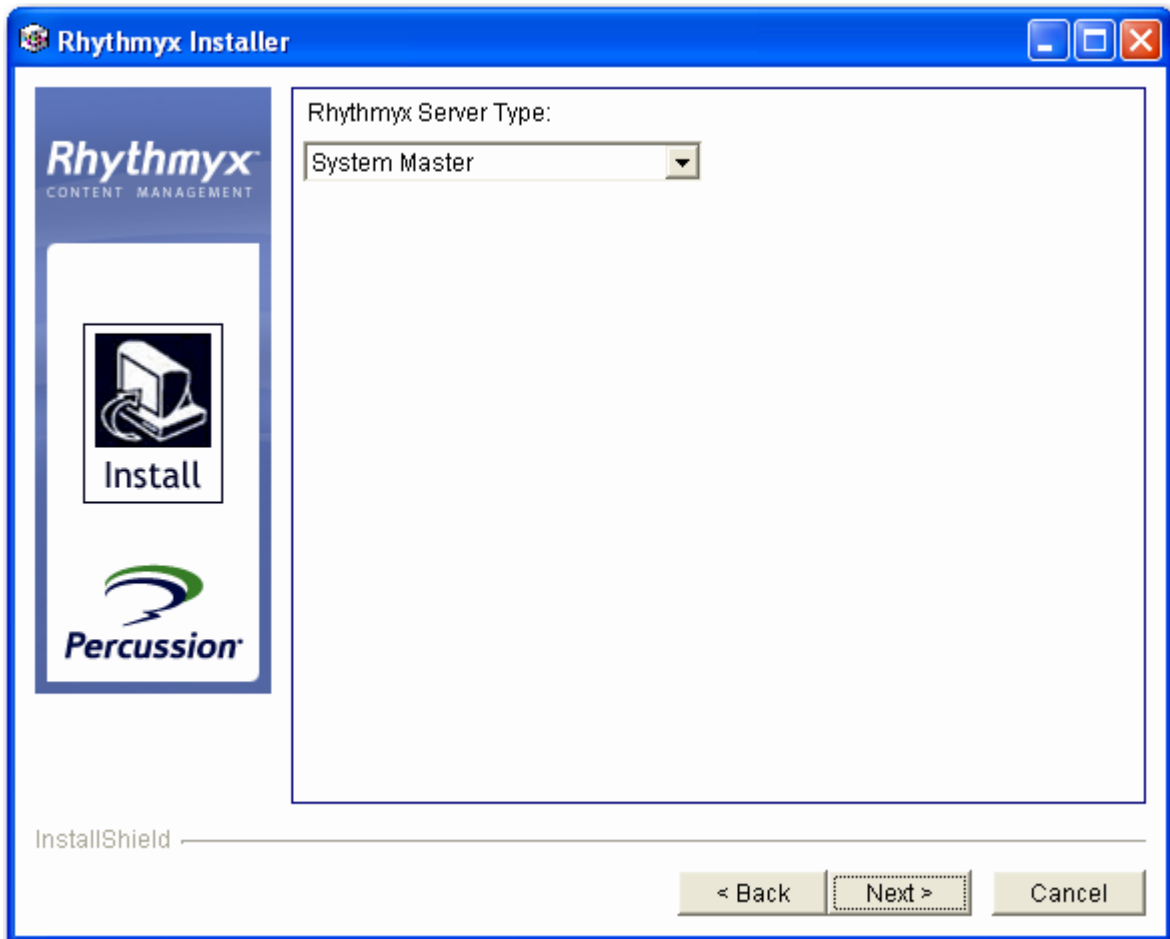


Figure 17: Select Server Type dialog

The install wizard displays the Installation Information dialog

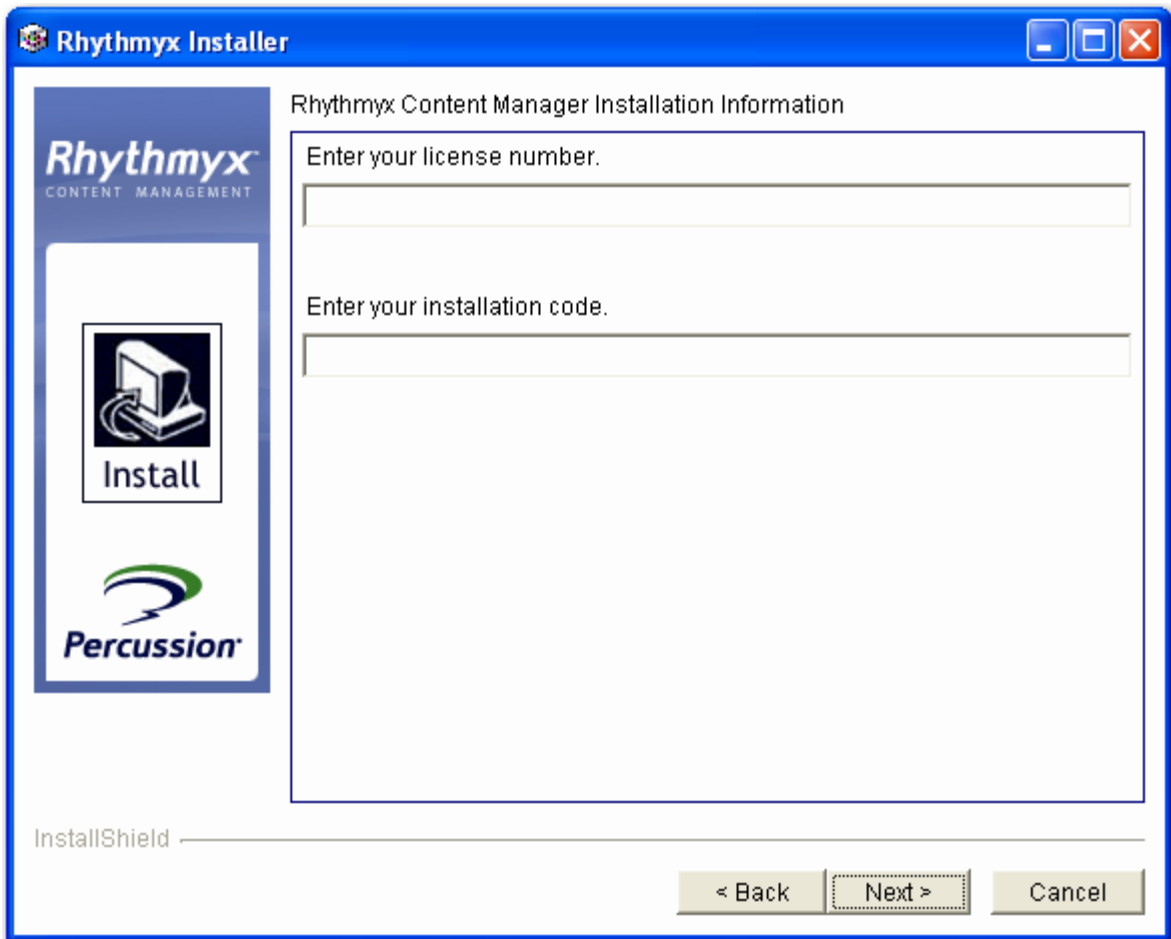


Figure 18: Installation Information dialog

- 11 Enter the license number and installation code, which you can find on the back of the CD jacket. Click the [Next >>] button.

The installation wizard displays the license summary dialog, which lists the components you are licensed to install.

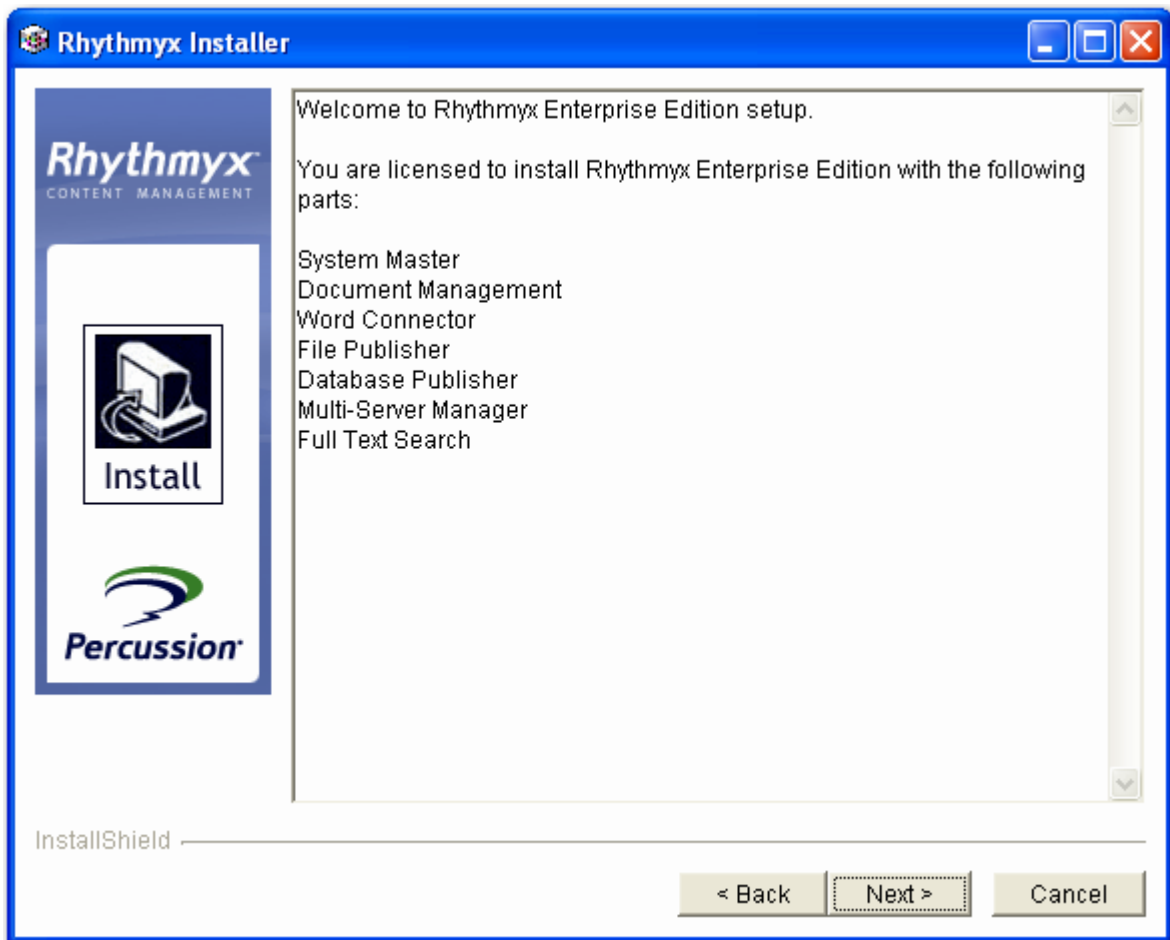


Figure 19: License summary dialog

12 Click the [Next >>] button.

The installation wizard displays the Repository Database Selection dialog.

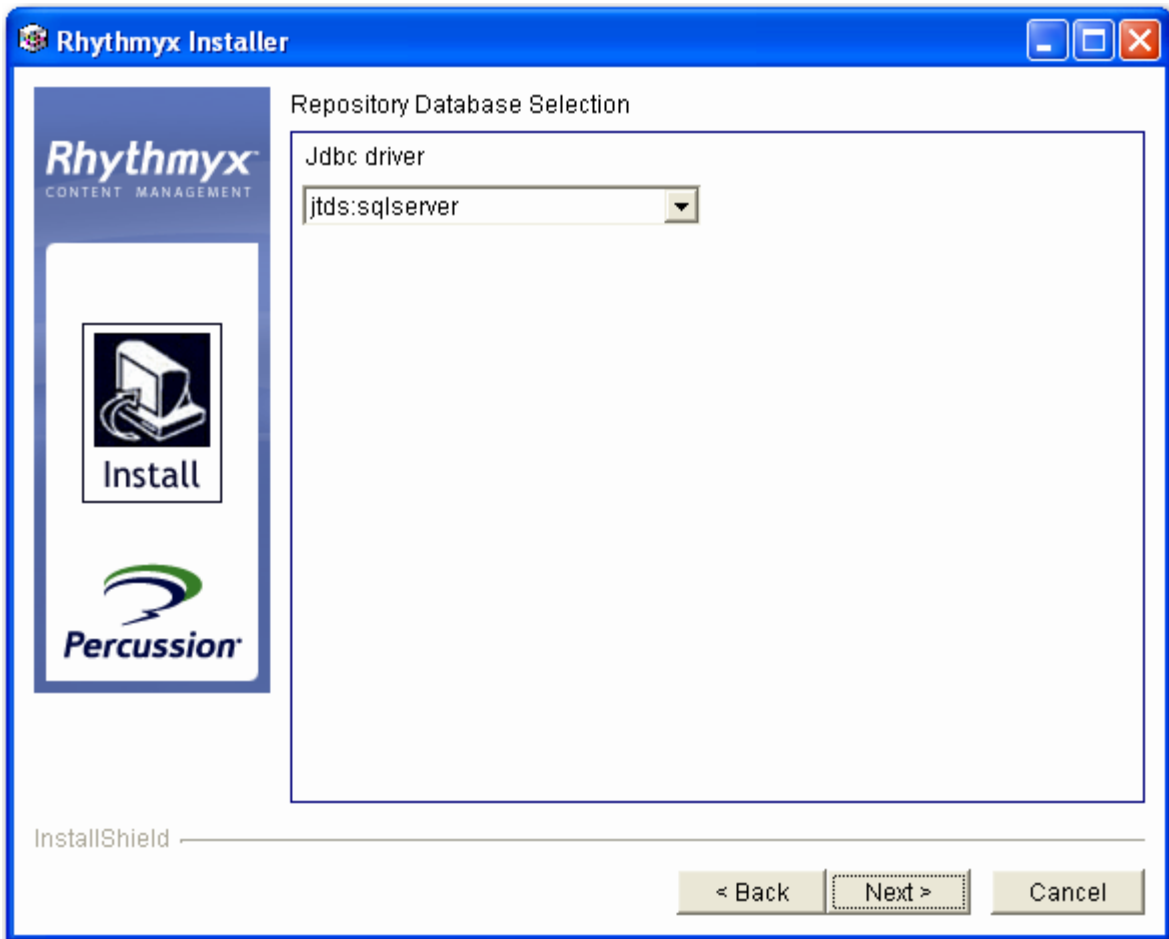


Figure 20: Repository Database Selection dialog

- 13** The default value for this dialog is *jtds:sqlserver*. Leave this option selected. Click the [Next >>] button.

The installation wizard displays the Repository Database Definition dialog.

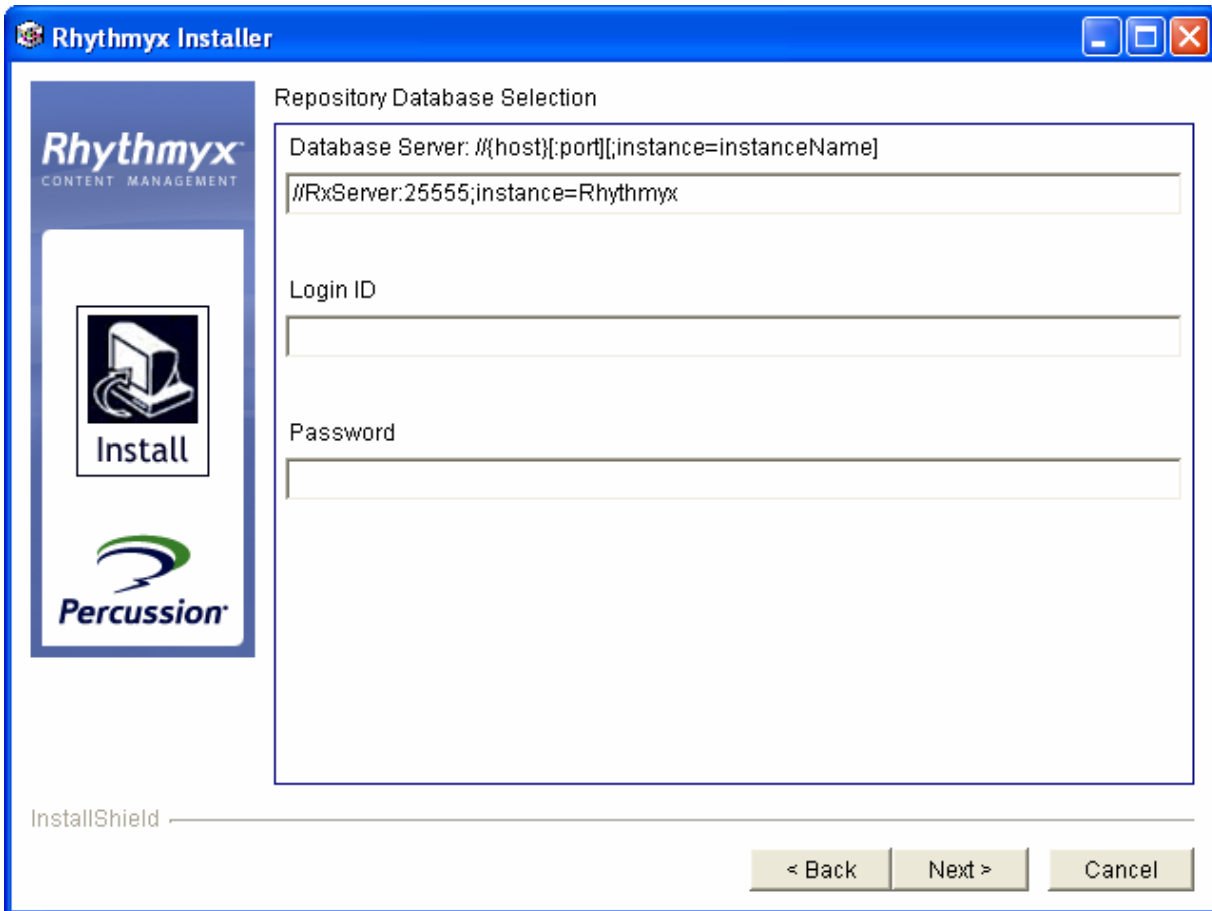


Figure 21: Repository Database Definition dialog

- 14** In the **Database Server** field, enter `//localhost` (or the name or IP address of the machine where the SQLServer database resides if it is not local). (NOTE: The jtds driver requires the double backslashes (`//`) in the server specification. If you have specified a port other than the default {1433} for your SQL server installation, you must also specify the port {for example: `//localhost:1433`}. If you use a SQL Server instance, you must specify the instance as well: `//localhost:1422;instance=Rhythmyx`.) In the **Login ID** field, enter the login ID of your SQL Server installation (the default user is `sa`). In the **Password** field, enter the password of the user used to log in to the database. Click the **[Next >>]** button.

The installation wizard displays the Schema and Database Definition dialog.

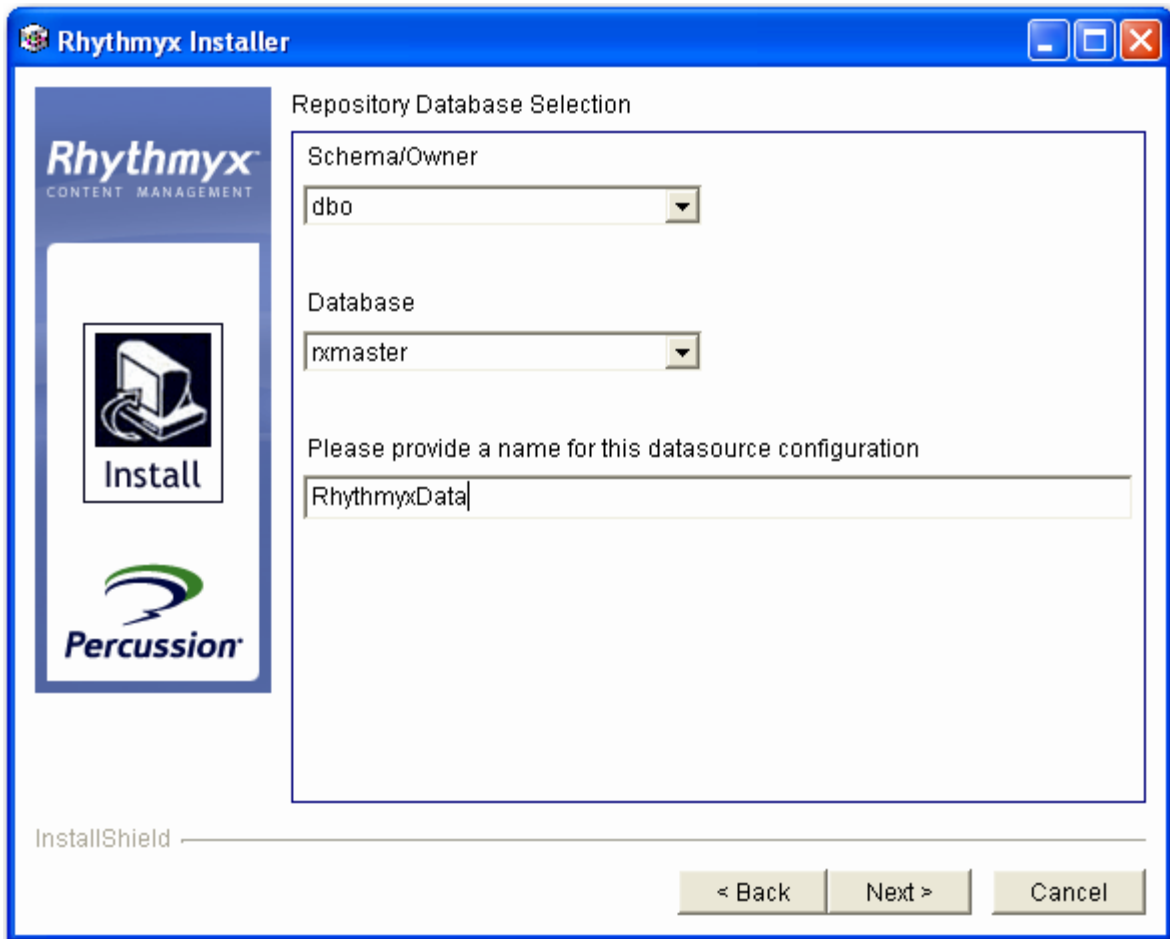


Figure 22: Schema and Database Definition dialog

- 15 If you defined a database owner other than the default `dbo` owner, choose the owner from the Schema/Owner drop list. (In most cases, you can leave the default `{dbo}` selected.) In the Database drop list, choose `rxmaster`. The default name for the datasource configuration used to connect to the database is `RhythmyxData`, but you can change the name if you prefer. Click the [Next >>] button.

The installation wizard displays the Rhythmyx Service Properties dialog

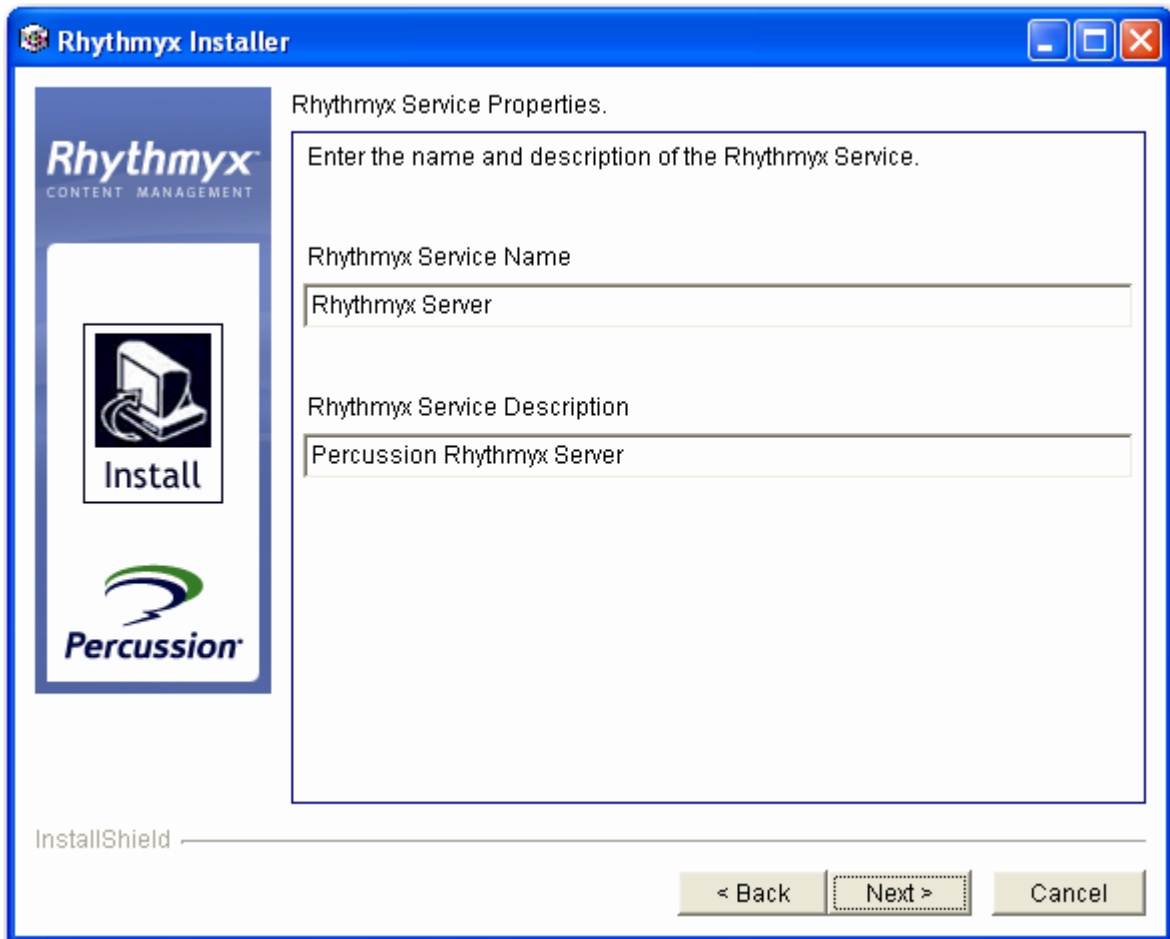


Figure 23: Rhythmyx Service Properties dialog

- 16 For the purposes of this procedure, we will use the default name (*Rhythmyx*) and description (*Percussion Rhythmyx*) of the Rhythmyx service. Click the [Next >>] button.

The installation wizard displays the Rhythmyx Server Settings dialog.

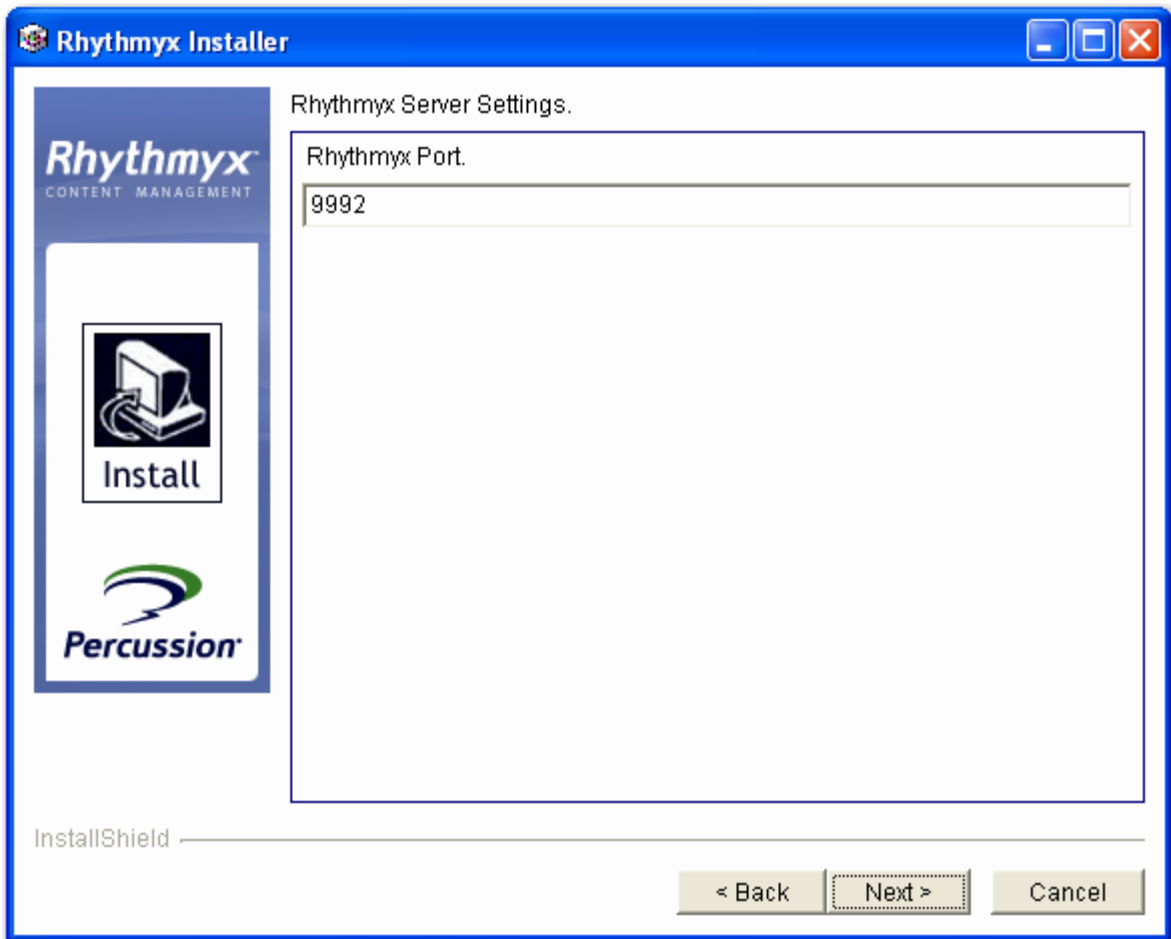


Figure 24: Rhythmyx Server Settings dialog

17 We will use the default port (9992). Click the [Next >>] button.

The installation wizard displays the Full Text Search Settings dialog

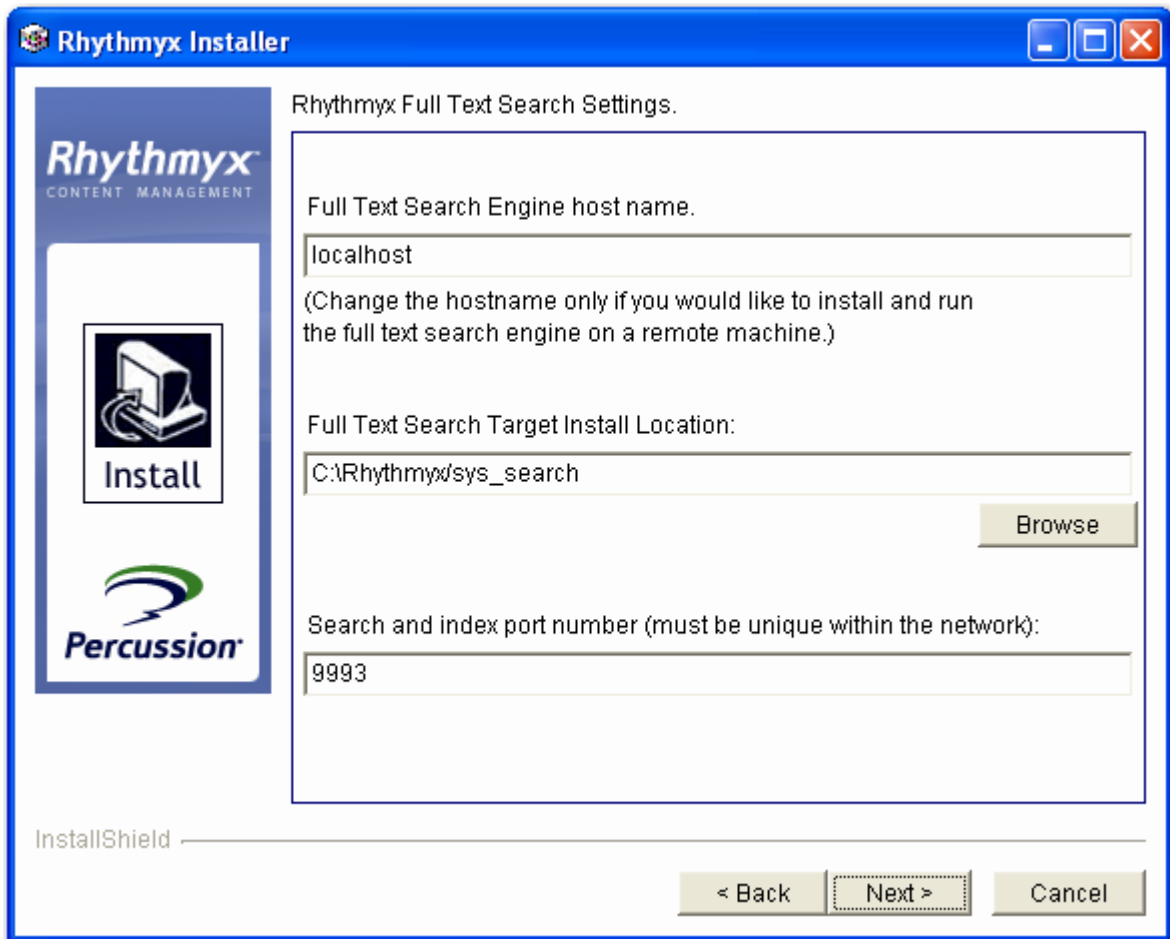


Figure 25: Full-text Search Settings dialog

- 18** If you want to set up full text search on the local machine, accept the defaults for the search engine host name and the search target install location. (See the Note below for information on choosing a port.) Click the [Next >>] button.

NOTE: Percussion Software recommends that you choose unique search port numbers other than the default port number (9993) for each installation of Rhythmyx with full text search within the same network, whether it is a development or a production installation. Choosing unique search port numbers avoids a potential conflict with search results that can occur when two Rhythmyx servers on the same network use the same search port number.

The installation wizard displays the Application Server Settings dialog.

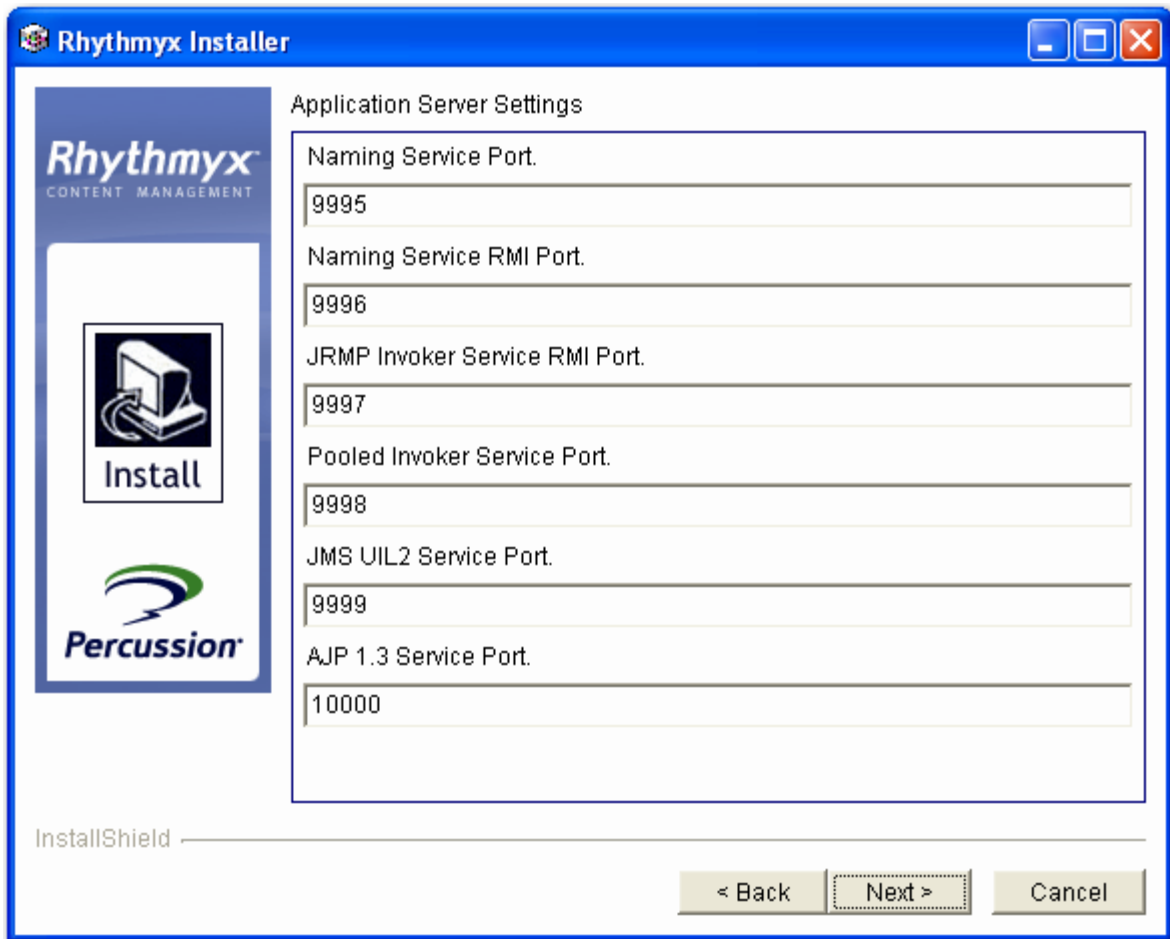


Figure 26: Application Server Settings dialog

- 19 This dialog lists the ports that will be used by the Rhythmyx server and its container. Reivew these ports to ensure that they are not already in use. If necessary, change these ports. Click the [Next >>] button.

The install wizard displays the installation summary dialog.

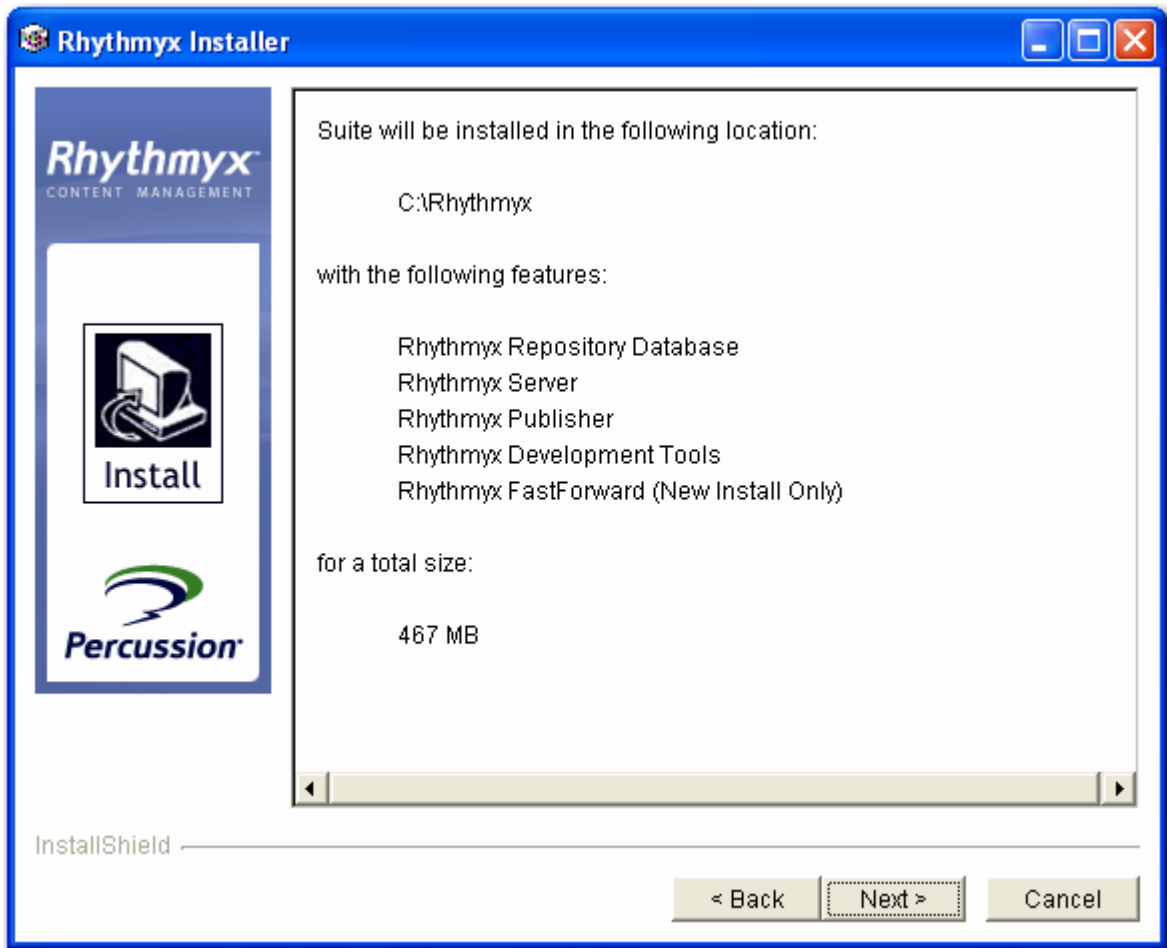


Figure 27: Installation summary dialog

- 20** Click the **[Next >>]** button.

The installation process launches. The installation wizard displays a progress dialog notifying you of the progress of the installation. When the installation is complete, the install wizard displays the success dialog.

If installation fails, see the troubleshooting recommendations in *Getting Started with Rhythmyx*.

- 21** Click the **[Finish]** button.

The installation wizard displays the readme dialog.

- 22** Review the readme and click **[Done]** to complete the installation process.

Installing a Production Server in Solaris/Oracle

NOTE: Before beginning the Rhythmyx installation, define a schema named rxmaster in Oracle that will serve as your Rhythmyx data repository. You must also have a login ID and password for the Solaris and Oracle servers. Contact your system or database administrator to obtain the necessary Solaris and Oracle accounts.

IMPORTANT REQUIREMENT: To open the Rhythmyx server installed in a UNIX environment, you must install the GNU Compiler Collection (GCC), Version 3.2.2 or higher. You can download GCC from www.freeware.com. Install GCC to either `/usr/local/lib` or `/usr/lib`; otherwise, you will have to modify the environment variable `LD_LIBRARY_PATH` (for the user account under which Rhythmyx is installed) to include the GCC path you use.

To install Rhythmyx on a production Solaris platform with an Oracle back-end, using the command line:

- 1 Create (or have your administrator create) a user in Solaris to install and run Rhythmyx. (If you run multiple instances of the Rhythmyx server, create a user for each instance.) The user you create must be the owner of all files copied from the CD-ROM; must have read permissions on all installer files; and must have execute and read permissions on the following files:
 - `suite.so`
 - `SetupConsole.sh`

NOTE: You must log in as this same user to run Rhythmyx and perform upgrades.

- 2 Copy the contents of the installation CD-ROM to the install user's home directory (`/export/home/username`). (You cannot run the Solaris installation directly from the CD-ROM.)
- 3 From the install user's home directory, change to the directory containing the Rhythmyx setup installation files.

```
$ cd rxinstaller/setup
```
- 4 Run the shell script `SetupConsole.sh`.

```
$ sh SetupConsole.sh
```

NOTE: If you receive a message about insufficient disk space, create a temporary directory under the install user's home directory called `tmp`.

```
$ cd /export/home/username
$ mkdir tmp
```

Then run the install script again, using this command line:

```
$ sh SetupConsole.sh -is:tmpdir /export/home/username/tmp
```

- 5 The InstallShield Wizard is launched and displays the following text. Enter 1 and press Enter to continue.

```

Initializing InstallShield Wizard...
Preparing Java(tm) Virtual Machine...
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
-----
Welcome to the InstallShield wizard for Rhythmyx.
The InstallShield wizard will guide you through the installation steps.
Press 1 for Next, 3 to Cancel or 4 to Redisplay [1] 1

```

Figure 28: Install Wizard Welcome

- 6 Press Enter to read the license agreement and enter q to quit when you have finished.

```

-----
Please read the following license agreement carefully.
SOFTWARE LICENSE AND SUPPORT AGREEMENT

1. GRANT: PERCUSSION grants to LICENSEE a perpetual, non-exclusive,
non-transferable license (the
"License") to use each Product on the Designated CPU as described in a fully
executed purchase order or
other ordering documents. Designated CPU must be owned or leased by LICENSEE.

2. TERM AND TERMINATION: This Agreement shall be effective on the date LICENSEE
acquires the
Product and remain in force until terminated. PERCUSSION may immediately
terminate all Licenses without
further obligation or liability if: a.) LICENSEE fails to pay amount due
hereunder and continues to be
delinquent for a period of (30) days after the last day on which payment is
due; or b.) a petition alleging
insolvency is filed by or against LICENSEE, or a receiver is appointed for any
part of LICENSEE'S business,
or its assets are assigned for the benefit of creditors; or c.) LICENSEE

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

```

- 7 Enter 1 and press Enter to accept the terms of the license agreement.

```
Please choose from the following options:
[ ] 1 - I accept the terms of the license agreement.
[X] 2 - I do not accept the terms of the license agreement.
To select an item enter its number, or 0 when you are finished: [0] 1
```

Figure 29: Accepting the License Agreement

- 8 Enter 0 and press Enter to quit out of the prompt. (If you don't enter 0, the script keeps prompting you to accept the license agreement.)

```
[X] 1 - I accept the terms of the license agreement.
[ ] 2 - I do not accept the terms of the license agreement.
To select an item enter its number, or 0 when you are finished: [0] 0
```

Figure 30: Quitting the License Agreement Prompt

- 9 The script displays information about the need to create a user ID to run the Rhythmyx installation, run Rhythmyx, and perform updates to the installation in the future. (Note that when performing an update, this user must also have read and write permissions on all the files under the Rhythmyx root directory.) You should have already created this user in step 1 of this procedure. Create the user ID if necessary and enter 1 to continue.

```
Please read the information below.
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.
Press 1 for Next, 2 for Previous, 3 to Cancel or 4 to Redisplay [1] 1
```

Figure 31: Reminder to Create Install User in Solaris

- 10 Enter 1 and press Enter for new install.

```
Choose Installation Type
Choose Installation Type
1. New install
2. Upgrade existing install
Enter one of the options above: [1] 1
```

Figure 32: New or Upgrade Installation Prompt

- 11 Rhythmyx displays the default location for the installation, which is under the install user's home directory. Press Enter to accept the default and continue.

```
Installation Directory
Enter a directory: [/export/home/bobbie/Rhythmyx] █
```

Figure 33: Installation Directory Prompt

- 12** The script asks if you want to create the installation directory if it doesn't exist. Enter 1 and press Enter to create the directory and continue.

```
1. OK
2. Cancel

The directory does not exist. Do you want to create it? [1] 1
```

Figure 34: Prompt to Create the Installation Directory

- 13** Set the install user permissions (according to the information in the following prompt) on all files under the Rhythmyx root installation directory, if necessary. Enter 1 and press Enter to continue.

```
Please read the information below.

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.

Press 1 for Next, 2 for Previous, 3 to Cancel or 4 to Redisplay [1] 1 █
```

Figure 35: User Permissions Prompt

- 14** Deselect the following products from the installation options list (they aren't necessary in the production environment):
- Rhythmyx Enterprise Content Connector
 - Rhythmyx FastForward

To deselect a product, enter its number at the prompt, press Enter, and follow the on-screen instructions. Then deselect the next product. When you have finished deselecting products, enter 0 to continue with the installation. The following dialog shows how to deselect FastForward; Enterprise Content Connector is already deselected in this example.

```
Select the products you would like to install:

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. [ ] Rhythmyx Enterprise Content Connector
5. [x] Rhythmyx Full Text Search               Typical
6. [x] Rhythmyx FastForward (New Install Only) Custom

Other options:

0. Continue installing

Enter command [0] 6

1. Deselect 'Rhythmyx FastForward (New Install Only)'
2. Change 'Rhythmyx FastForward (New Install Only)' setup type

Enter command [1] 1
```

Figure 36: Choosing Rhythmyx Products to Install

The following screen shot shows the recommended configuration of this dialog for the production server installation:

```
Select the products you would like to install:

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. [ ] Rhythmyx Enterprise Content Connector
5. [x] Rhythmyx Full Text Search               Typical
6. [ ] Rhythmyx FastForward (New Install Only)
```

Figure 37: Recommended Products Configuration for Production Server

- 15** Do not select either of the two features displayed for the Rhythmyx Publisher. Enter 0 to continue with the installation.

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

Rhythmyx Publisher

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

1. [ ] Database Publisher

Other options:

0. Continue installing

Enter command [0]
```

Figure 38: Publisher Options

- 16** Specify the type of Rhythmyx server you want to install. Enter 1 and press Enter to choose System Master, which is used in most situations.

```
Rhythmyx Server Type:

1. System Master
2. Publishing Hub

[1] 1
```

Figure 39: Choosing the Rhythmyx Server Type

- 17** Enter your license number and installation code, which you can find on the back of the install CD-ROM jacket. (The number and code shown here are only examples.)

NOTE: Remember that the license number and installation code are only good for 30 days. After 30 days, contact Percussion Software, Inc., Technical Support for a new number.

```
Rhythmyx Content Manager Installation Information

Enter your license number. [ ] B-BAEA-BFIAID-TIAC-92
Enter your installation code. [ ] B-BAEA-BFIAID-TIAC-92
```

Figure 40: Entering the License Number

- 18** The installer displays a summary of the Rhythmyx features you are licensed to install. Confirm that the correct components are listed and enter 1 and press Enter to continue.

```

-----
Welcome to Rhythmyx Enterprise Edition setup.

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

[Press Enter]

Press 1 for Next, 2 for Previous, 3 to Cancel or 4 to Redisplay [1] 1

```

Figure 41: Rhythmyx Features Licensed to Install

- 19** Define the Jdbc subprotocol to connect to your database. For an Oracle database, enter 2 for oracle:thin.

```

Repository Database Selection

1. jtds:sqlserver
2. oracle:thin
3. sybase
4. db2

Jdbc subprotocol [1] 2

```

Figure 42: Database Subprotocol Selection

- 20** Rhythmyx asks you to enter the database server name. The installer automatically fills in for you the name of the server on which you are installing Rhythmyx. If this is where your database is, press Enter to continue. If your database is on a different machine, enter the IP address or host name for that machine, the port number, and the SID and press Enter. Remember to insert the @ sign before the IP address or host name.

```

Repository Database Selection

Database Server: @{host}:{port}:{sid} [@qapercsun:1521:ORCL] @255.255.255.92:
1521:renzar

```

- 21** Enter your Oracle login ID and password and enter 1 and press Enter to continue.

```

Login ID [] BOBBIEK
Password [] demo

Press 1 for Next, 2 for Previous, 3 to Cancel or 4 to Redisplay [1] 1

```

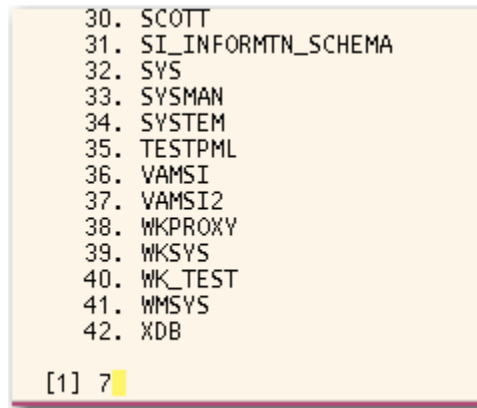
Figure 43: Oracle Login ID and Password

- 22** If the connection to the database is successful, you see a message similar to the one shown below.

```
Connecting to : jdbc:oracle:thin:@255.255.255.92:1521:ORCL
Connecting to : jdbc:oracle:thin:@255.255.255.92:1521:ORCL
```

NOTE: If the installer cannot connect to the database successfully, check that you entered the following data correctly: the database host machine IP address or host name, port number, SID, and the database user login ID and password. If these are correct, be sure the two servers can communicate, for example, be sure both servers are running and that there is no problem such as a firewall configuration that prevents access.

- 23** If the connection to the database is successful, the installer displays a list of schema names. At the prompt, enter the number for the schema that will serve as your Rhythmyx data repository -- rxmaster -- and press Enter.



```
30. SCOTT
31. SI_INFORMTN_SCHEMA
32. SYS
33. SYSMAN
34. SYSTEM
35. TESTPML
36. VAMSI
37. VAMSI2
38. WKPROXY
39. WKSYS
40. WK_TEST
41. WMSYS
42. XDB

[1] 7
```

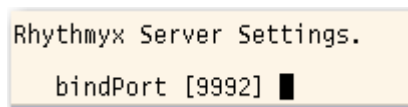
Figure 44: Select Schema Name

- 24** After the installation wizard connects to the schema you specify, it asks you to specify a name for the Datasource configuration. The default name for the Datasource configuration 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]
```

Figure 45: Datasource configuration

- 25** Accept the default bindPort number of 9992 by pressing Enter. (The bind port number must be in the range 1025 through 65535, as numbers 1 through 1024 are reserved by many companies.)



```
Rhythmyx Server Settings.
bindPort [9992]
```

Figure 46: Choose Bind Port Number

- 26** The installer displays a warning that all port numbers in the installation must be unique. Follow the instructions to change the port number, if necessary, or press Enter to continue. If you wish, you can enter 1 at the prompt to prevent the installer from displaying this warning message in the future.

```
Rhythmyx Server Settings.
bindPort [9992]
Press 1 for Next, 2 for Previous, 3 to Cancel or 4 to Redisplay [1] 1
  1. Don't repeat this warning
  2. Continue to show this warning
Each port number in this installation must be unique.
If the port number on this page duplicates any other in this installation,
then return to this page and change the port number. [1]
```

Figure 47: Unique Port Number Warning

- 27** The installer displays the Full Text Search dialog as shown in this step. If you want to set up full text search on the local machine, accept the defaults for the Full Text Search Engine host name and the Full Text Search Target Install Location by pressing Enter at both line prompts. Enter a unique value other than 9993 for the Search and index port number. (See the Note below for more information on choosing a port.) If you wish to set up full text search on a remote machine, see *Installing Rhythmyx*.

NOTE: Percussion Software recommends that you choose unique search port numbers other than the default port number (9993) for each installation of Rhythmyx with full text search within the same network, whether it is a development or a production installation. Choosing unique search port numbers avoids a potential conflict with search results that can occur when two Rhythmyx servers on the same network use the same search port number.

```
Rhythmyx Full Text Search Settings.
Full Text Search Engine host name. [localhost]
Full Text Search Target Install Location:
[/export/home/bobbie/Rhythmyx/sys_search]
Search and index port number (must be unique within the network): [9993] 9996
Press 1 for Next, 2 for Previous, 3 to Cancel or 4 to Redisplay [1] 1
```

Figure 48: Full Text Search Settings

- 28** After you define the full-text search configuration, the installation wizard displays a set of application server ports. These ports are used internally by the Rhythmyx application server. check to confirm that these ports are not in use. If any of the ports are in use, change the port to one that is not in use.

```
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]
ATP 1.3 Service Port. [9237]
```

Figure 49: Application Server Port Listings

- 29** Enter 1 and press Enter to confirm the display of location and features for your Rhythmyx installation. The features listed should include the Rhythmyx Repository Database, Rhythmyx Server, Rhythmyx Publisher, and Rhythmyx Full Text Search.

```
Suite will be installed in the following location:
/export/home/bobbie/Rhythmyx
with the following features:
Rhythmyx Repository Database
Rhythmyx Server
Rhythmyx Publisher
Rhythmyx Full Text Search
for a total size:
348.7 MB
Press 1 for Next, 2 for Previous, 3 to Cancel or 4 to Redisplay [1] 1
```

Figure 50: Rhythmyx Installation Location and Products

- 30** The installation runs, displaying a progress bar and a list of extensions it is installing. Periodically, it displays other messages indicating what is being installed, for example:

```
Installing extension: Java/global/percussion/workflow/sys_wfPerformTransition
Installing extension: Java/global/percussion/workflow/sys_wfNextNumber
Installing extension: Java/global/percussion/workflow/sys_wfNextNumberSecondary
Installing extension: Java/global/percussion/workflow/sys_wfGetCheckOutUserStatu
s
Installing extension: Java/global/percussion/workflow/sys_wfExecuteActions
Installing extension: Java/global/percussion/workflow/sys_wfAppendWorkflowAction
s
Installing extension: Java/global/percussion/workflow/sys_wfAddEditAuthFlag
Installing extension: Java/global/percussion/cms/publisher/sys_pubCreatePublishe
rConfig
|||||
Installing Rhythmyx Publisher. Please wait...

Creating uninstaller...

Installing Rhythmyx Full Text Search. Please wait...
.....
.....
```

Figure 51: Rhythmyx Installation Messages

If installation fails, see the troubleshooting recommendations in *Getting Started with Rhythmyx*.

Post-Installation Steps

When the installation is complete, follow these steps:

- 1** Read the `readme.txt` file in the Rhythmyx root installation directory. It contains information that could be very important to you.
- 2** To enable auto-startup of Rhythmyx, run the `InstallDaemon.sh` script located in the Rhythmyx root directory. This script must be run as root.
- 3** Source the `.profile` file to update the environment variables for the current shell.

CHAPTER 4

Installing Implementation Multi-server Manager Archives on the Production Server

Once you have installed the Rhythmyx server on your production machine, and defines the server Roles required by your implementation, you can deploy your Multi-Server Manager Archives to the production environment.

The order in which you deploy the archives is important. The order in which the FastForward descriptors are numbered conforms to best practices when installing deployment archives.

- 1 Workflows
- 2 Content Types
- 3 Slots and Templates (or Variants, if you use any)
- 4 Content Lists
- 5 Sites
- 6 Communities
- 7 Additional Implementation Elements

Before beginning this procedure, you must register your production server. For details about registering a server, see "*Registering Your Development Server*" (see page 8).

Your development server does not have to be running during deployment, but your production Rhythmyx server must be running.

Simple Example of Archive Installation

This procedure walks you through the process of installing a Multi-Server Manager archive. In this case we will install the Content Types archive created in the topic *Simple Example of Archive Creation* (on page 11) .

We will assume that Multi-Server Manager is already running, that you have registered your production server. If you have not registered your production server, see *Registering Your Development Server* (on page 8). For the purpose of this exercise, we will assume that the production Rhythmyx server is named Sparrow and the Rhythmyx port is 24992.

You do not need to be connected to your development Rhythmyx server to install the archive on the production server; in fact, the development Rhythmyx server does not even need to be running to install the archive on the target server. The production Rhythmyx server must be running, however, and you must have an active connection to it. If you have shut down Multi-Server Manager since you registered the production server, you will need to re-establish the connection. To connect to Sparrow:

- 1 In Multi-Server Manager, expand the Repository Alias node of the database for the production Rhythmyx server.
- 2 Right-click on the server icon, and from the popup menu, choose *Connect*.
Multi-Server Manager displays the Connect to Server dialog.
- 3 Enter the User Name and Password for a user that has rights to access the production Rhythmyx server, and click the **[OK]** button.

Multi-Server Manager establishes the connection. If the attempt to establish a connection fails, Multi-Server Manager returns an error. If it succeeds, Multi-Server Manager does not display any indication of success. To confirm that the connection has been established successfully, right-click on the server node again. If the first entry in the popup menu is *Disconnect*, you have established the connection successfully.

Before beginning to install the archive, Percussion Software strongly recommends that you backup both the server and the database. Use standard backup techniques.

NOTE: Content Types have a dependency on Workflows, meaning the Workflows must already exist on the production server before the Content Types archive can be deployed successfully. For the purpose of this exercise, we will assume that the required Workflows have already been deployed to the production server.

To install the Content Types archive:

- 1 On your development machine, start Multi-Server Manager.
- 2 In the Multi-Server Manager Menu bar, choose *Action > Install Archive*.

Multi-Server Manager displays a warning dialog recommending that you backup your Rhythmyx server and repository. If you have not already done so, click the **[No]** button and back up your system. If you have already backed up your system, click the **[Yes]** button.

Multi-Server Manager displays the first dialog of the Install Archive wizard.

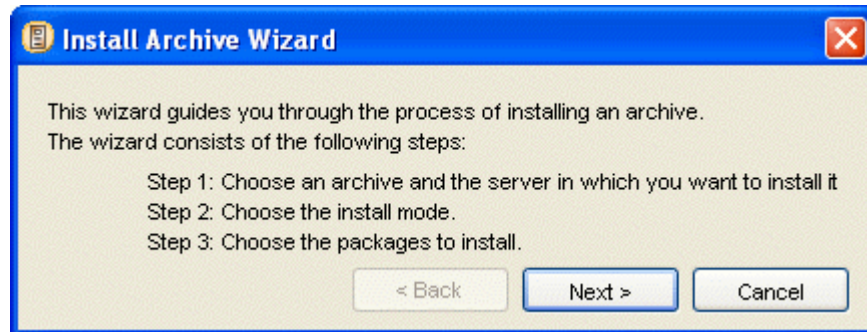


Figure 52: Install Archive Wizard

- 3 Read the text and click the [**N**ext] button.

Multi-Server Manager displays the Select Archive and Server dialog.

- 4 To specify the archive to install:

- a) Click the browse button next to the **Archive** field.

Multi-server Manager opens a browse dialog showing the Rhythmyx installation directory on the development server (this is the default location.)

- b) Find the ExpressInvestmentsContentTypeArchive.pda file and select it.
- c) Click the [**O**pen] button.

The browse dialog closes and the path to the archive is entered into the **Archive** field. The name of the archive is entered into the **Server Archive Name** field.

- 5 In the Target Server field, select Sparrow:8982.

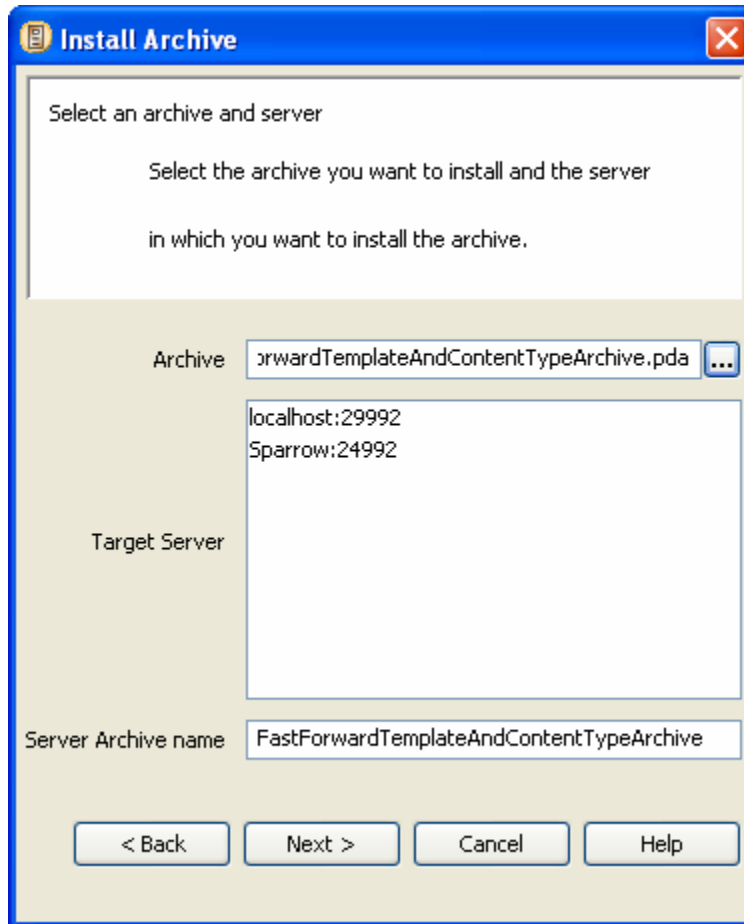


Figure 53: Select Archive and Server dialog showing Content Types archive specified to deploy to the server Sparrow.

- 6 Click the [Next] button.

Multi-Server Manager displays the Choose Installation Mode dialog with the Typical radio button selected.

- 7 Click the [Next] button.

Multi-Server Manager displays the Select Packages to Install dialog.

- 8 In the Available Packages list, select all packages in the archive, then click the [Add] button to add them to the Packages to Install list.

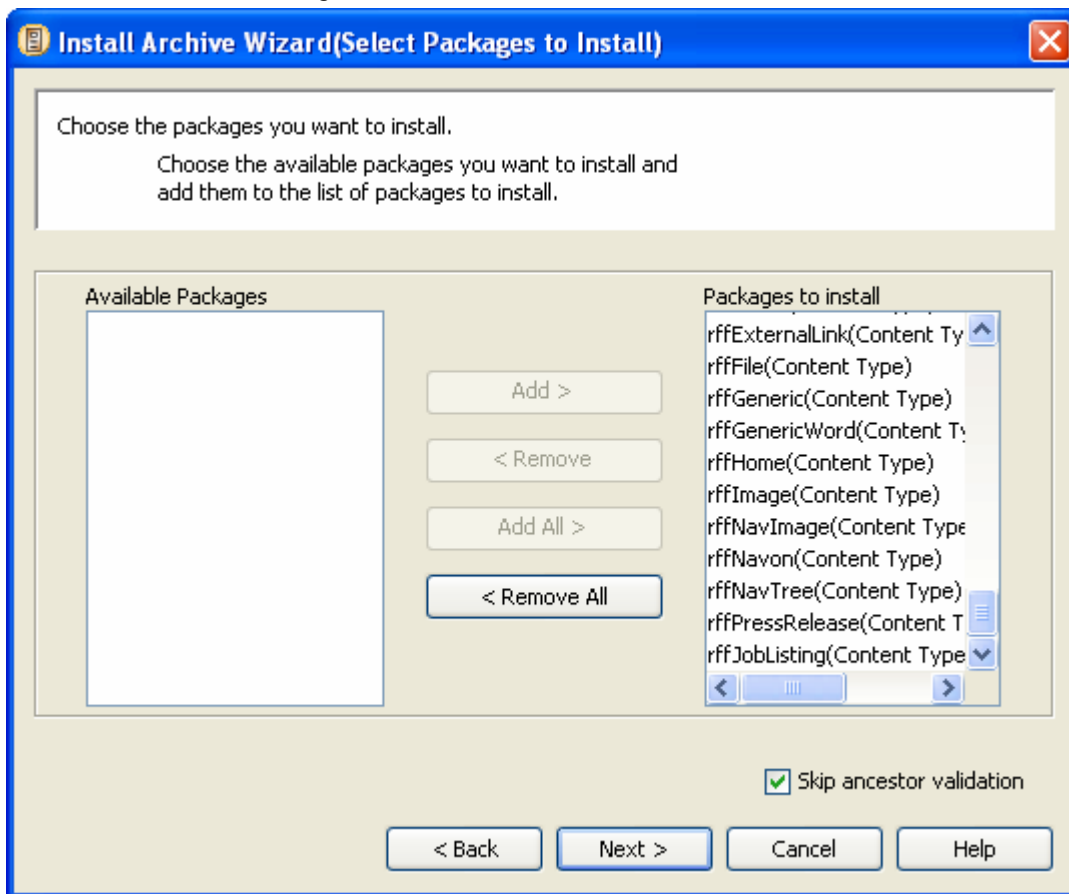


Figure 54: Choose Packages to Install dialog with all Content Type packages selected for installation

- 9 Click the [Next] button.

Multi-Server Manager displays the Transforms dialog.

- 10** Click the **[Guess All]** button. This action checks the Add to Server box for all elements that must be added to the target server.

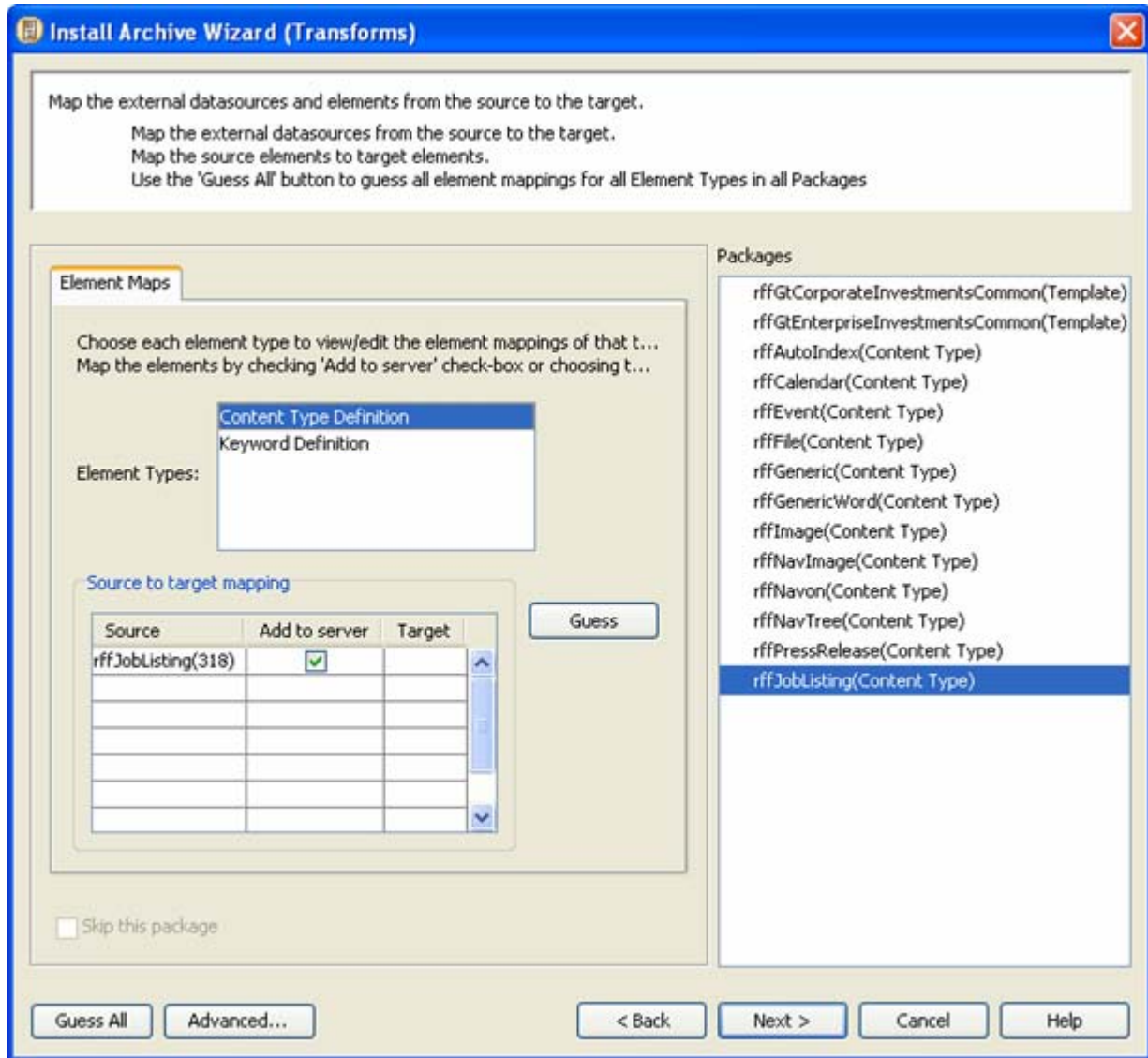


Figure 55: Transforms dialog showing Job Listing Content Type definition added to server

- 11** Click the **[Next]** button.

Multi-Server Manager displays a progress dialog showing its progress validating the packages in the archive. When it finishes, it displays the Dependency Validation dialog.

- 12** Select each package in the archive to review the validation results.

Of the dependencies we identified when creating the archive:

- The system definition already exists on the server.
- Workflows were installed earlier
- the CT_RFFJOBLISTING table schema, Departments Keyword, and "shared" shared field group are being installed as part of this archive.

The only remaining dependencies are the Communities associated with the Content Type, which result in validation warnings.

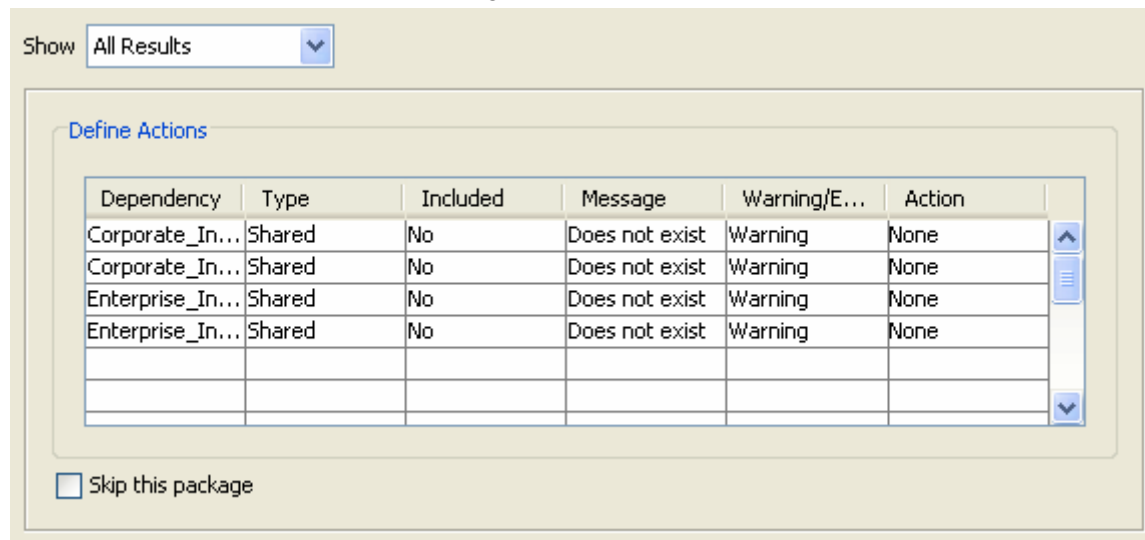


Figure 56: Validation dialog showing validation errors for the Content Types archive

If the value in the **Warning/Error** column is *Error*, you will not be able to install the package. You should cancel installation of the archive and resolve the error. If you are attempting to install an archive out of the recommended order, some required elements may not exist on the target Rhythmyx server; install the archive with the required dependency before proceeding. The archive you are trying to install may also be missing some required packages. If necessary, rebuild the archive to include the required packages.

If the value in the **Warning/Error** column is *Warning*, you can install the package. If the dependency already exists on the target server, Multi-Server Manager will not overwrite it. If the dependency is part of the package you are installing, you should opt to install it as part of the package. If the dependency is not part of the package you are installing, you can continue with the installation and port these design elements later.

- 13 When you have addressed all validation problems, click the [**Next**] button.
- 14 Multi-Sever Manager displays the Installation Summary dialog. Review the installation status for each package, then click the [**Finish**] button.

Multi-Server Manager begins the installation and displays a progress dialog so you can track the progress of the installation.

When Multi-Server Manager finishes installing, it adds a [**Show Log**] button to the [**Close**] button on the dialog.

- 15 To view the log, click the [**Show Log**] button.

Multi-Server Manager displays the Archive Summary dialog.

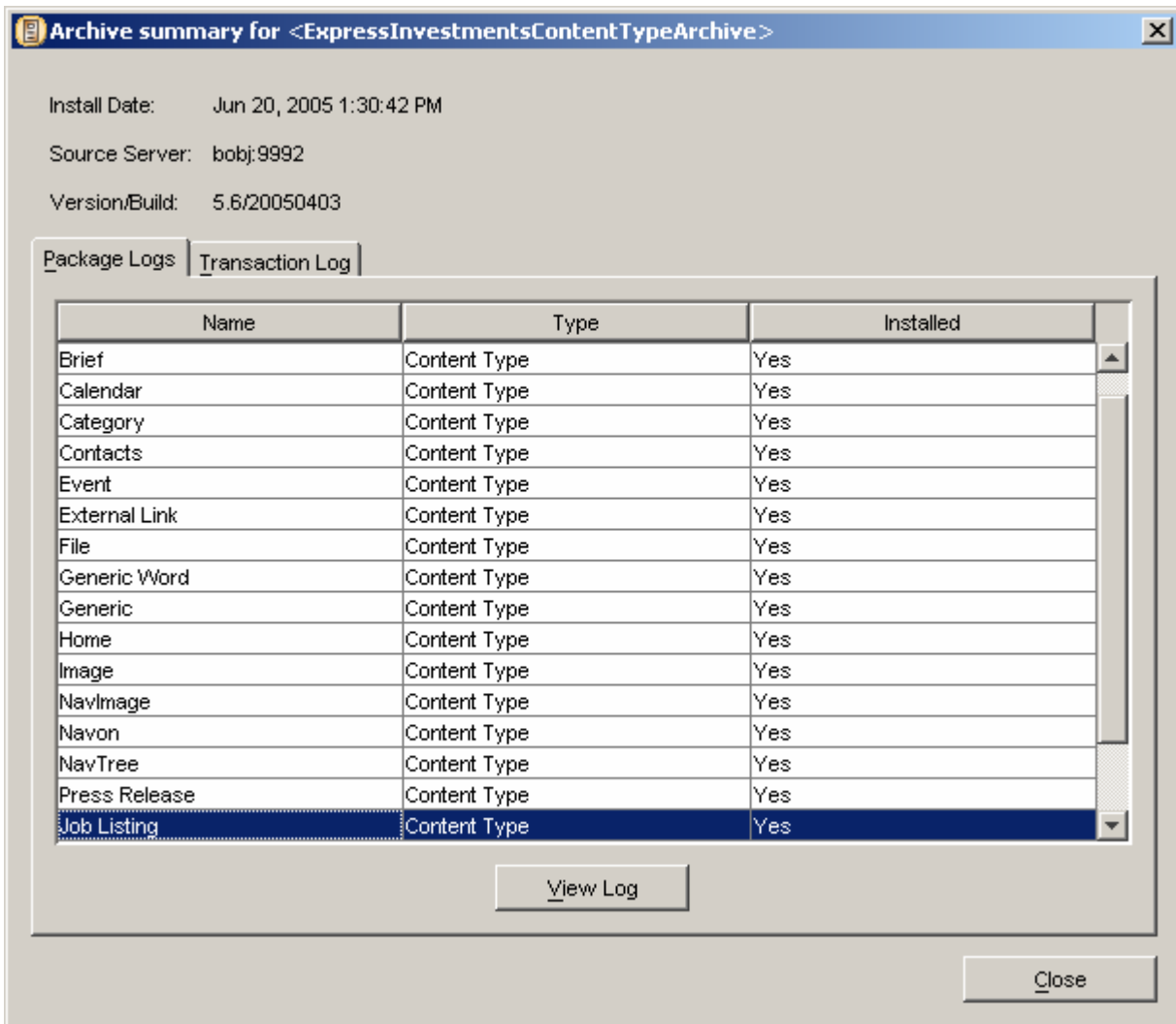


Figure 57: Log Summary dialog for Content Types archive

16 To view the log for a specific package, select the package and click the [**Show Log**] button.

17 To close any of the open dialogs, click the [**Close**] button.

It is a good idea to back up your system after each successful installation to preserve any changes in case installation of a later archive fails. Such back ups alleviate the need to roll back to the pristine server if an archive fails. Instead, you only need to roll back to the last successful archive.

CHAPTER 5

Implementing Security in the Production Environment

To implement security for Rhythmyx, you must define a security provider, which supplies a list of users for Rhythmyx and authenticates them when they log in. You can then add your users to their Roles.

Finally, Rhythmyx provides some default security settings which you should modify to prevent unintended access to your system.

Security providers link to external resources that list users that can use Rhythmyx. These external resources provide authentication support when a user attempts to log in to Rhythmyx, and in some cases also define the Rhythmyx Roles the user belongs to when logged in.

Four types of security providers are available for Rhythmyx:

- **Directory Connection**

A directory connection security provider uses a directory server, such as LDAP or Microsoft Active Directory, to list and authenticate users. This security provider can also define the Rhythmyx Roles for the users. The directory connection security provider is the recommended security provider.
- **Windows NT**

The Windows NT security provider can only be used in Windows environments. This security provider uses the operating system's security system to list and authenticate users. This security provider is the recommended alternative in Windows environments if a directory connection security provider is not an option. Percussion Software generally recommends converting your NT security to Active Directory and using a directory connection security provider instead.
- **Backend Table**

The backend table security provider uses a database table to list and authenticate users. No graphic front end is provided for this table, however, and both the user name and the password are stored as clear text. While this security provider is useful for development environments (the default Rhythmyx users shipped by Percussion Software are stored in the USERLOGIN table in the Repository database), it is not recommended for production environments.
- **Web Server**

The web server security provider derives users from a web server's security provider, and uses that security provider to authenticate the users. The exact security mechanism is controlled by the web server itself. This security provider is recommended for use only on portals or when Rhythmyx runs as a servlet on another servlet container that provides security.

Defining Security Providers

Before you can add users to your system, you must define a security provider.

Security providers link to external resources that list users that can use Rhythmyx. These external resources provide authentication support when a user attempts to log in to Rhythmyx, and in some cases also define the Rhythmyx Roles the user belongs to when logged in.

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Implementing a Directory Connection Security Provider

A directory connection security provider uses a directory server, such as LDAP or Microsoft Active Directory, to store the list of users and to provide authentication when they attempt to log in to Rhythmyx. LDAP servers also provide the option of defining customer attribute identifiers, which provides additional flexibility for defining attributes you can use in Rhythmyx. This feature is particularly useful for associating Roles with your users in your LDAP server. You can maintain your Roles as part of the user attributes in LDAP rather than in Rhythmyx. Using this approach simplifies user maintenance in Rhythmyx.

Note that Active Directory does not provide this ability. If you use Active Directory as your directory server, you will have to assign users to Roles in Rhythmyx rather than using the directory server to maintain their Roles.

Implementing a directory connection security provider involves two phases:

- Defining a directory services configuration

A directory services configuration defines the data used to connect to the directory server and to authenticate the user. A directory services configuration consists of the following data:

 - Authentication

Authentication data defines the data used to log in to the directory server.
 - Directory Configuration

A Directory Configuration defines the data required to connect to a specific directory.
 - Directory Sets

A Directory Set defines a group of Directory Configurations that can be accessed together, and the connection information required to connect to them. You must define a Directory Set before you can define a Directory Connection Security Provider. A Directory Set may consist of a single Directory Configuration, of multiple Directory Configurations for directories on the same directory server, or of multiple Directory Configurations for directories on different directory servers.
 - Role Providers (optional)

A Role Provider defines the data that determines how Rhythmyx will use directory server information to determine the user's Roles once they have been authenticated.
- Defining the directory connection security provider

This section will describe an example set up of a directory connection security provider. You may find it useful to download and install an LDAP browser to facilitate your directory services configuration. The browser allows you to look up and confirm attribute, connection, and directory information. An LDAP browser makes it easier to complete the directory services configuration, but the browser is not required to complete the configuration successfully.

LDAP Configuration

In our example configuration, we will be using a SunONE directory server that resides on a machine named FastForward. The directory server listens on port 389 (the default LDAP port).

We use LDAP to authenticate three users:

- Lisa Kerr, Ed Wong, and Kent Hoyt are members of the Content Contributors Group. We want to assign them to the Author Role in Rhythmyx. These users do not belong to any other groups, and they should not be assigned to any other functional Roles.
- Bernadette Bridge is a member of the Team Captains Group, but she is the only member of that group we want to have access to Rhythmyx. She will be a member of the Admin Role.
- All of these users must be Members of the XI_Members Community.

We will also use Bernadette Bridge to bind to the directory server, so she must be able to search for and read attribute values for any user in the directory that Rhythmyx will catalog on or authenticate. If we were going to implement a Group Provider, Bernadette would also have to be able to search and read attribute values of any Groups Rhythmyx would use to authenticate.

In addition to authentication, we want to derive Role information from the directory server (in other words, we want to use it as a Role Provider). When using a directory server as a Role Provider, the user objects searched during a query must contain attributes that will correlate to an existing Rhythmyx Role. In other words, each user must have an object or group of objects, whose value equals the name of a Role in Rhythmyx. Thus, the user objects for Lisa, Ed, and Kent must include an object whose values include "Author" and "XI_Members".

Best practice when using LDAP is not to add a custom attribute to an existing object class, such as person. Instead, create a new object class and add the custom attribute to that object's class. In our example, we will create the new object class `rhythmyxPerson`, and add the custom attribute, `rhythmyxrole`, to that object class.

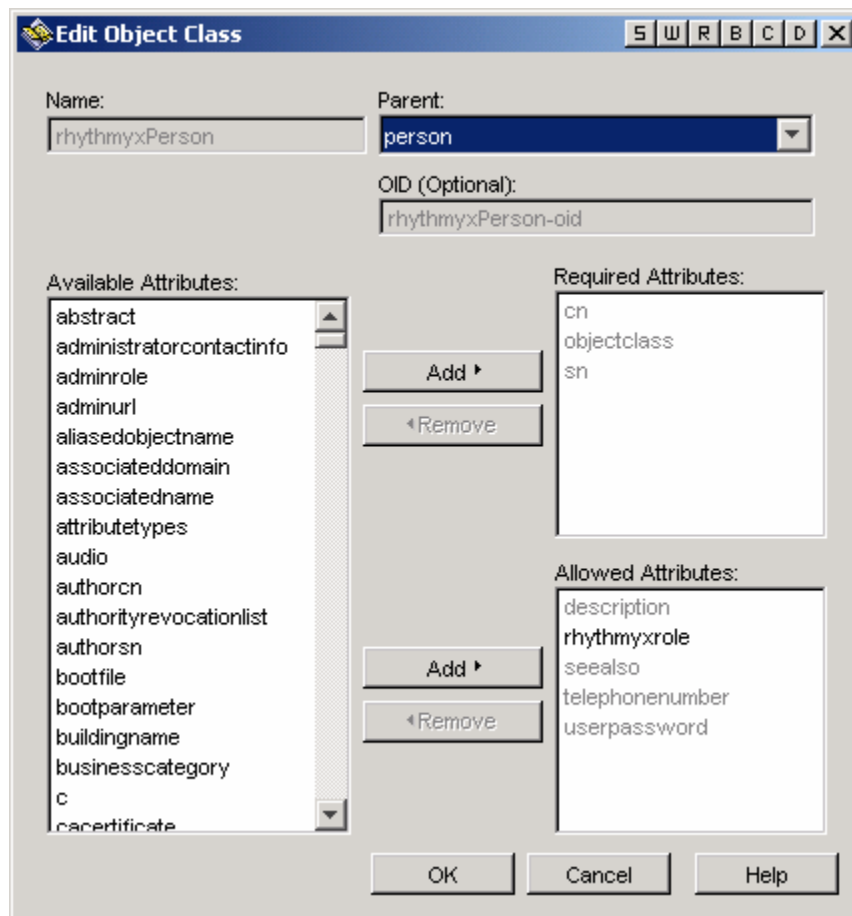


Figure 58: `rhythmyxPerson` Object Class with `rhythmyxrole` Attribute

We can then add this class to the list of object classes for the user object:

Object class	top
	person
	organizationalPerson
	inetorgperson
	rhythmyxperson

Figure 59: *rhythmyxperson* Object Class Added to the User Object

Once we have added the *rhythmyxperson* object class, we can add the *rhythmyxrole* attribute to the user object and assign it values. For example, Bernadette Bridge's Role definition would be:

rhythmyxrole	XI_Members
	Admin

Figure 60: LDAP Role Definition for Bernadette Bridge

While the Role definition for Lisa, Ed, and Kent would be:

rhythmyxrole	XI_Members
	Author

Figure 61: LDAP Role Definition for Lisa Kerr, Ed Wong, and Kent Hoyt

Defining an Authentication for a Directory Services Configuration

The first step in defining the directory server configuration is to define an Authentication.

Before defining the Authentication, you might want to use an LDAP browser to test that the authentication data will work. Start the browser and create a connection to your directory server:

Figure 62: Connection for Bernadette Bridge

If the credentials are correct, you will be able to bind and catalog the directory:

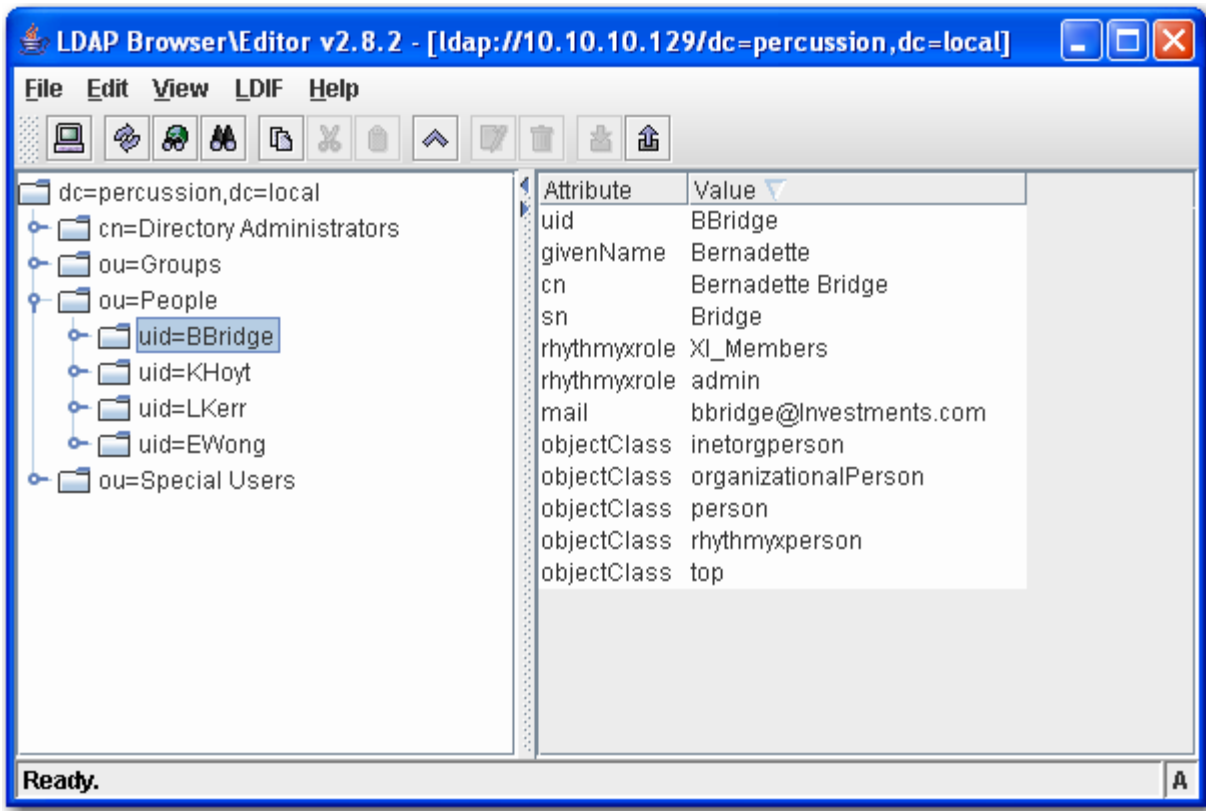


Figure 63: LDAP Browser connected using Bernadette Bridge's Connection

To define an Authentication:

- 1 Start the Rhythmyx Server Administrator.
- 2 Click the Directory Services tab. The default subtab is the Authentications tab.
- 3 Click the **[Add]** button.
Rhythmyx displays the Authentication Editor.
- 4 In the Name field, enter *FastForward Authentication*.
- 5 In the Schema drop list, choose *Simple*.
- 6 In the User Name field, enter *BBridge*.
- 7 In the Password field, enter *DeepSea* (which is Bernadette Bridge's password).

- 8 In the User Attribute field, enter *uid* (*uid* is the Naming Attribute on the SunONE directory server).

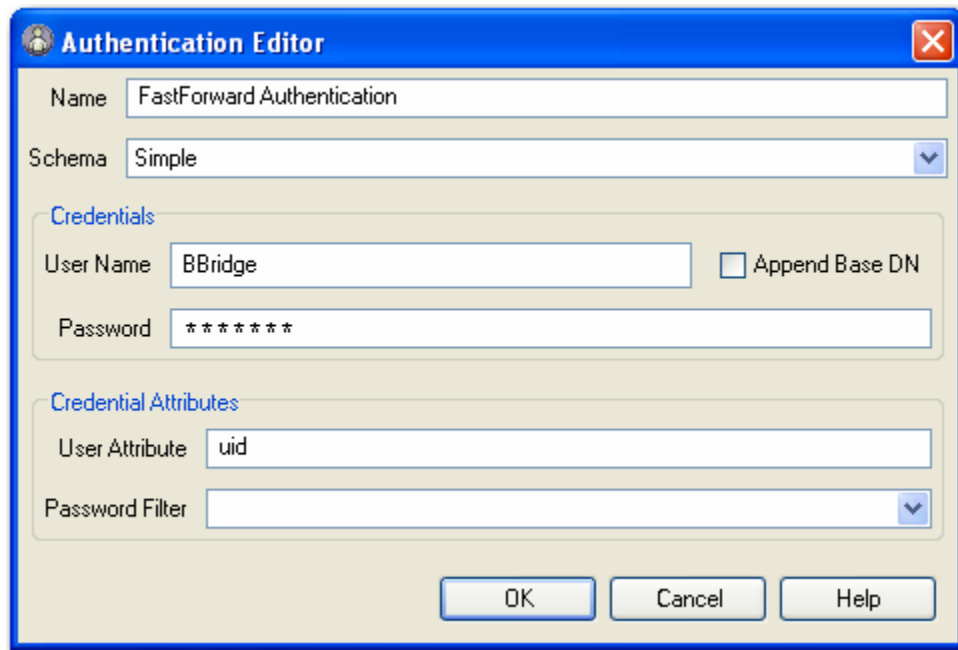


Figure 64: Authentication for FastForward Directory Server

- 9 Click the **[OK]** button to save the Authentication.
- 10 On the Rhythmyx Server Administrator, click the **[Apply]** button.

Defining a Directory for a Directory Services Configuration

The second step in defining a directory services configuration is to define a Directory. We will use the FastForward Authentication to connect to this directory.

To define a Directory:

- 1 In the Rhythmyx Server Administrator, click on the Directory Services tab, then on the Directories subtab.
- 2 Click the **[Add]** button.
Rhythmyx displays the Directory Editor.
- 3 In the **Name** field, enter *FastForward Directory*.
- 4 In the **Catalog** drop list, leave the default option, *Shallow*, selected.
- 5 In the **Factory** drop list, leave the default option, *com.sun.jndi.ldap.LdapCtxFactory*, selected.
- 6 In the **Authentication** drop list, choose the *FastForward Authentication*.
- 7 Complete the provider URL:
 - a) Click the browse button next to the **Provider URL** field.

- b) Rhythmyx displays the Provider URL dialog. If your Authentication works correctly, it will already have cataloged and fetched the Base DN.

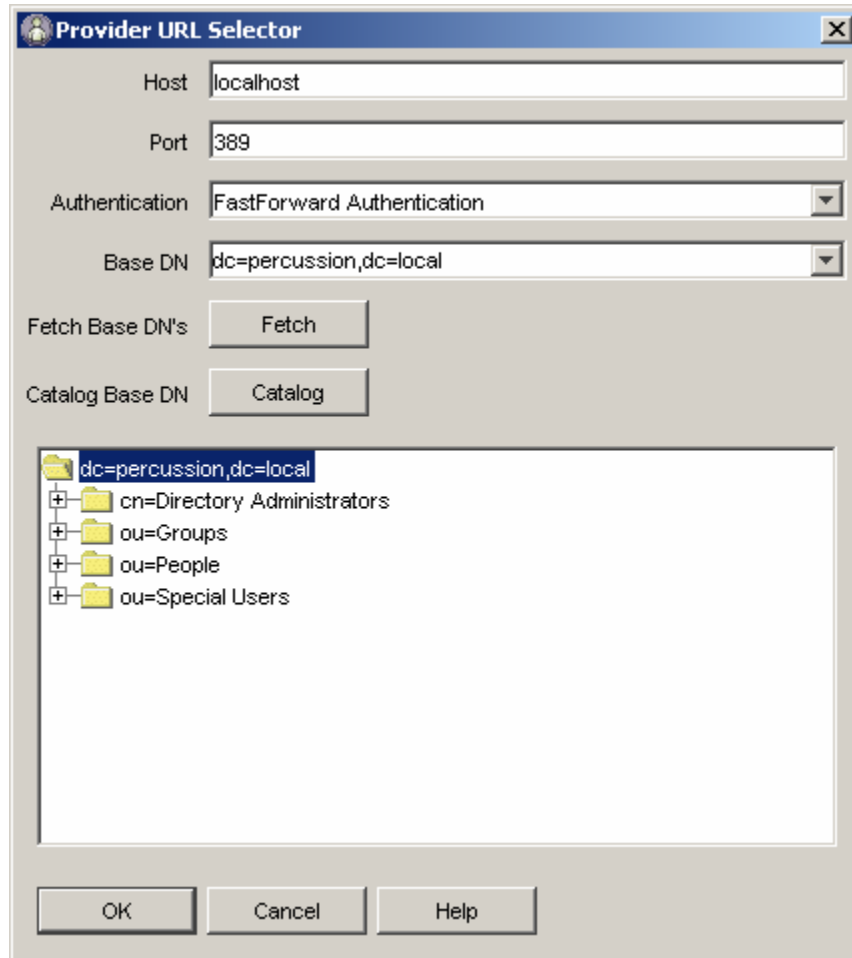


Figure 65: Provider URL Select Dialog showing DNs Cataloged and Fetched

- c) If the **Base DN** field and the catalog field at the bottom of the dialog are blank, click the [**Catalog**] button to catalog DNs, then click the [**Fetch**] button to fetch the base DN.
- d) In directory tree in the large unlabelled field, select the ou=People directory.
- e) Click the [**OK**] button.

f) Rhythmyx returns to the Directory Editor dialog.

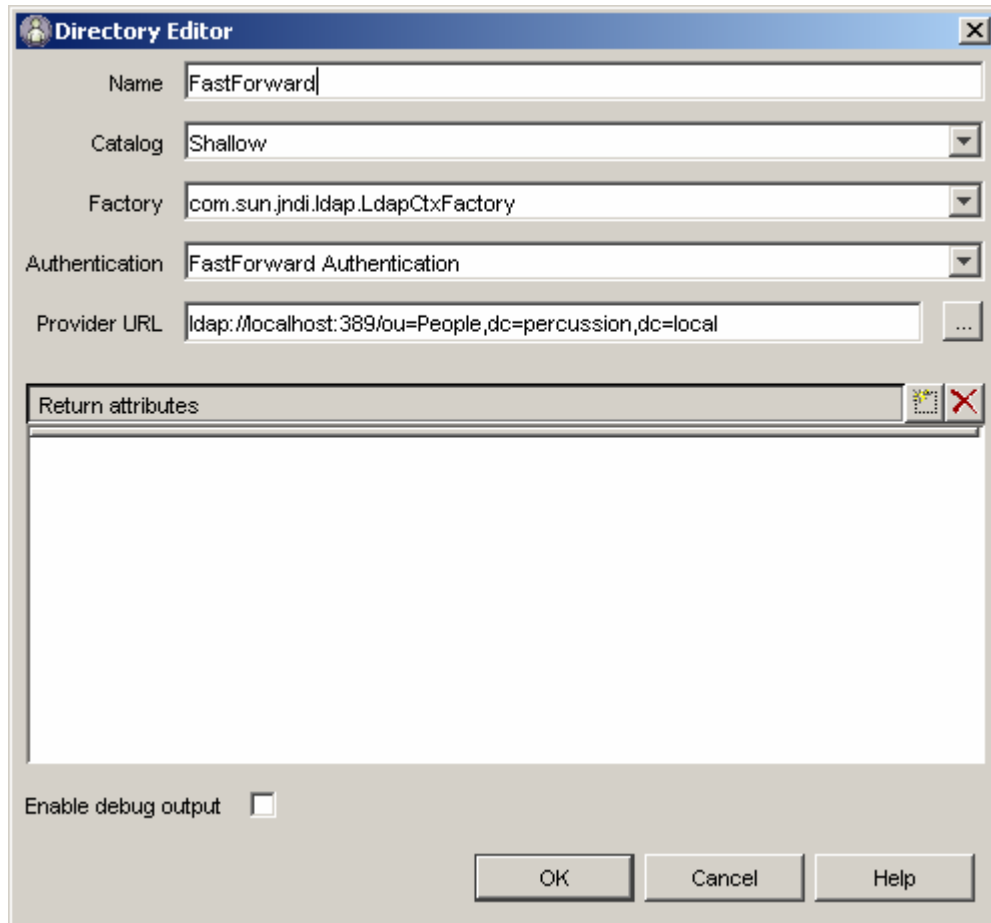


Figure 66: FastForward Directory Definition

- 8 Click the [OK] button to save the Directory definition.
- 9 On the Rhythmyx Server Administrator, click the [Apply] button.

Defining a Directory Set for a Directory Services Configuration

The third step in defining a directory services configuration is to define the Directory Set. You must define a Directory Set before you can create a Directory Connection Security Provider. Our Directory Set will consist of the FastForward Directory.

To define a Directory Set:

- 1 On the Rhythmyx Server Administrator, click the Directory Services tab and the Directory Sets sub-tab.
- 2 On the Directory Set sub-tab, click the [Add] button.
Rhythmyx displays the Directory Set Editor.
- 3 In the Name field, enter *FastForward Directory Set*.

- 4 In the Directories box, double-click in the **Name** column and from the drop list, choose *FastForward Directory*. When you choose this option, values for Catalog (*Shallow*) and Provider URL (*ldap://localhost:389/dc=percussion,dc=local*) will be added automatically.
- 5 In the Required Attributes box, click on the **Values** column of the `roleAttributeName` row, and enter *rhythmyxrole*.

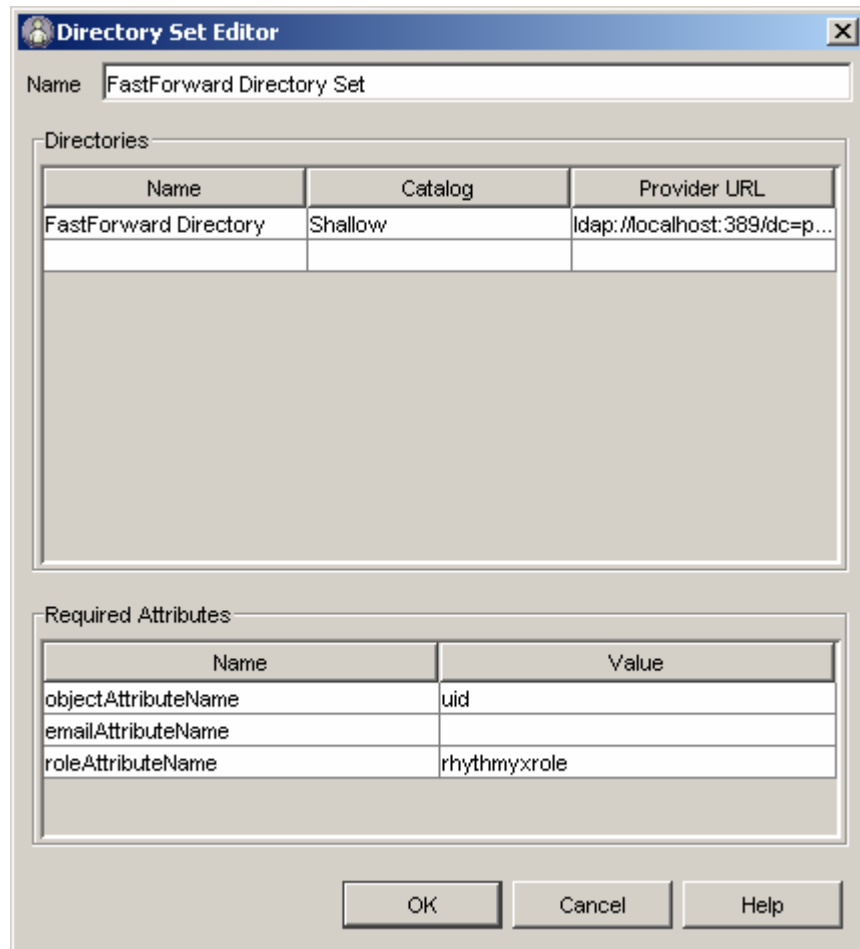


Figure 67: *FastForward Directory Set*

- 6 Click the **[OK]** button to save the Directory Set.
- 7 On the Rhythmyx Server Administrator, click the **[Apply]** button.

NOTE. If you are using Microsoft ActiveDirectory, this is as far as you can go. ActiveDirectory cannot be used as a Role Provider.

Defining a Role Provider for a Directory Services Configuration

Since we want to use our directory server to maintain Rhythmyx Roles, we must define a Role Provider.

NOTE: You cannot use Microsoft ActiveDirectory as a Role Provider. If you use Microsoft ActiveDirectory, you must maintain Roles manually.

To define a Role Provider:

- 1 On the Rhythmyx Server Administrator, click the Directory Services tab, then the Role Providers subtab.
- 2 On the Role Providers tab, click the **[Add]** button.
- 3 In the Name field, enter *FastForward Role Provider*.
- 4 In the Directory Set drop list, choose *FastForward Directory Set*.



Figure 68: *FastForward Role Provider*

- 5 Click the **[OK]** button to save the Role Provider.
- 6 On the Rhythmyx Server Administrator, click the **[Apply]** button.

Creating a Directory Connection Security Provider

Once you have completed the directory services definition, you can define a Directory Connection Security Provider that allows you to query the directory server to authenticate your users, and in our case to retrieve Role information for our users as well.

To create a Directory Connection Security Provider:

- 1 On the Rhythmyx Server Administrator, click the Security tab. The default subtab is the Security Providers tab. Leave this tab selected.
- 2 On the Security Providers tab, click the **[New]** button.
- 3 Rhythmyx displays the Select new security provider type dialog. From the drop list, choose *Directory Connection Security Provider* and click the **[OK]** button.
Rhythmyx displays the JNDI Security Provider Details dialog.
- 4 In the Provider Name field, enter *FastForward Security Provider*.

- 5 In the Directory Provider drop list, choose *FastForward Directory Set*.

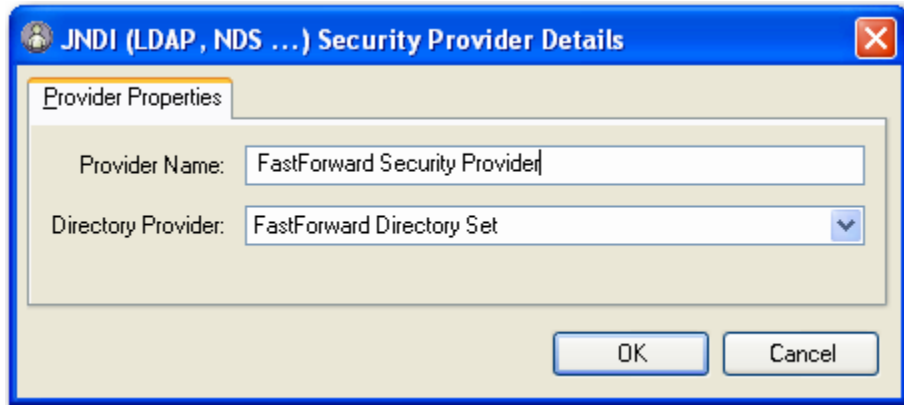


Figure 69: FastForward Directory Connection Security Provider

- 6 Click the [OK] button to save the FastForward Security Provider.

Testing the Directory Connection Security Provider

To test the directory services configuration and Directory Connection Security Provider, we start a browser and attempt to log in as Bernadette Bridge. When the browser displays the login dialog, we enter the username BBridge and enter Bernadette's password (DeepSea). If we have configured everything correctly, Bernadette will be authenticated and logged in to the XI_Members Community and the Admin Role:



Figure 70: Bernadette Bridge Logged in to Content Explorer

Lisa Kerr will be logged in to XI_Members Community and the Author Role:

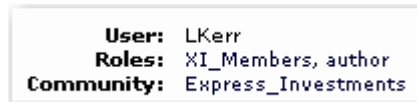


Figure 71: Lisa Kerr Logged in to Content Explorer

Implementing a Backend Table Security Provider

A Backend Table Security Provider uses a backend database table that stores usernames and passwords. (Rhythmyx uses the USERLOGIN table for this purpose). When authenticating a user, Rhythmyx queries the table to find matches for the username and password entered when logging in to Rhythmyx. If it finds matching values, the user has been authenticated and is logged in to Rhythmyx.

Rhythmyx does not provide an interface to the backend table. Use standard RDBMS mechanisms to maintain the values in the tables.

All data in the backend table, including the password, is stored unencrypted. Therefore Percussion Software recommends against using this Security Provider in the production environment.

For the purposes of this exercise, we will assume that we have created a new table, FASTFORWARDUSERS in the rxmaster database. This table consists of two columns:

- USERNAME
- LOGIN

To create a backend table security provider:

- 1 On the Rhythmyx Sever Administrator, select the Security tab. The default subtab is Security Providers. Select the Security Providers tab if it is not already selected.
- 2 On the Security Providers tab, click the [New] button.
- 3 On the Select New Security Provider Type dialog, select *Backend Table Security Provider* from the drop list. (Note: Backend Table Security Provider is the default option.) Click the [OK] button.

Rhythmyx displays the DBMS Table Security Property Details dialog. The default tab for this dialog is the Provider Properties tab.

- 4 In the Provider Name field, enter *FastForward Security Provider*.

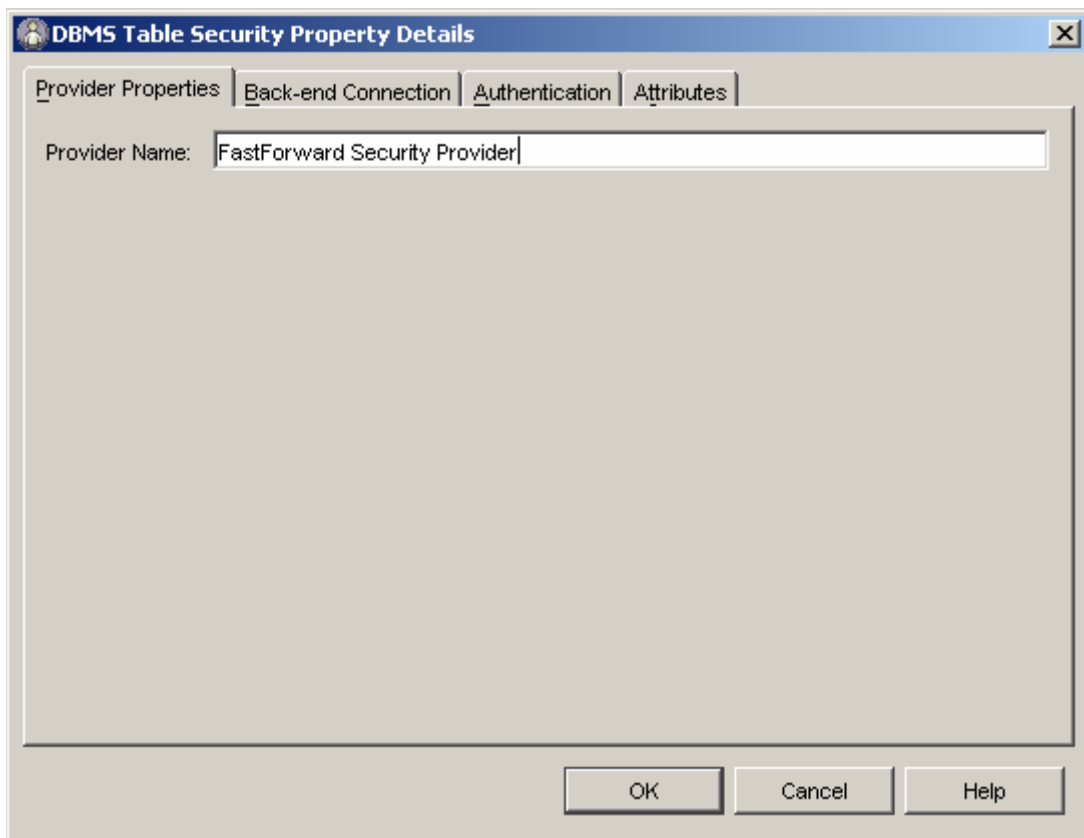


Figure 72: Backend Security Provider Properties Tab

- 5 Define the backend connection:
 - a) Click the Backend Connection tab.
 - b) The System Credentials drop list should contain two entries, *Define new...* and a connection to your installed Rhythmyx repository. The second entry should look something like this: *Rhythmyx Repository: jtds:sqlserver://fastforward:sa*. Select the connection to your installed Rhythmyx repository. When you select this option, the following fields should be filled in automatically:
 - o User ID
 - o Password
 - o Confirm Password
 - o Driver
 - o Server Name
 - c) In the Database drop list, choose *rxmaster*.
 - d) In the Owner drop list, choose the database owner (for example, *dbo*).
 - e) In the Table drop list, choose *FASTFORWARDUSERS*.

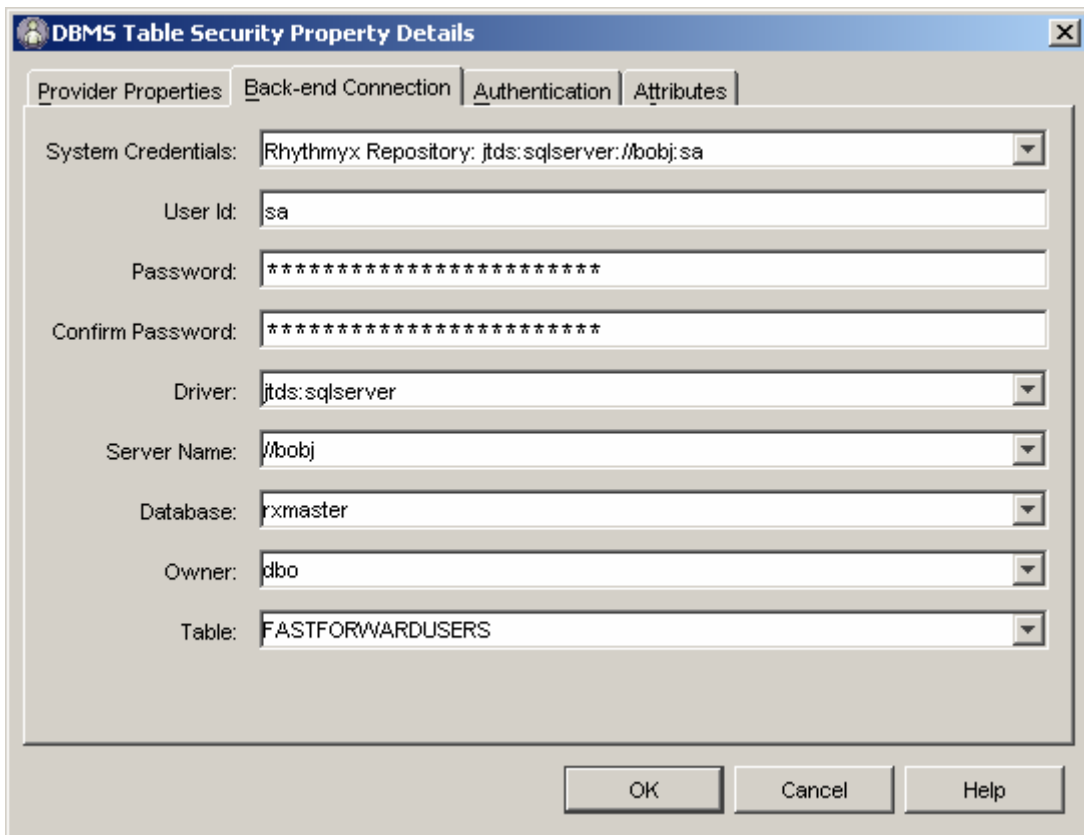


Figure 73: Backend Security Provider Connections Tab

- 6 Define the Authentication:
 - a) Click the Authentication tab.

- b) In the User Id Column drop list, choose *USERNAME*.
- c) In the Password drop list, choose *LOGIN*.

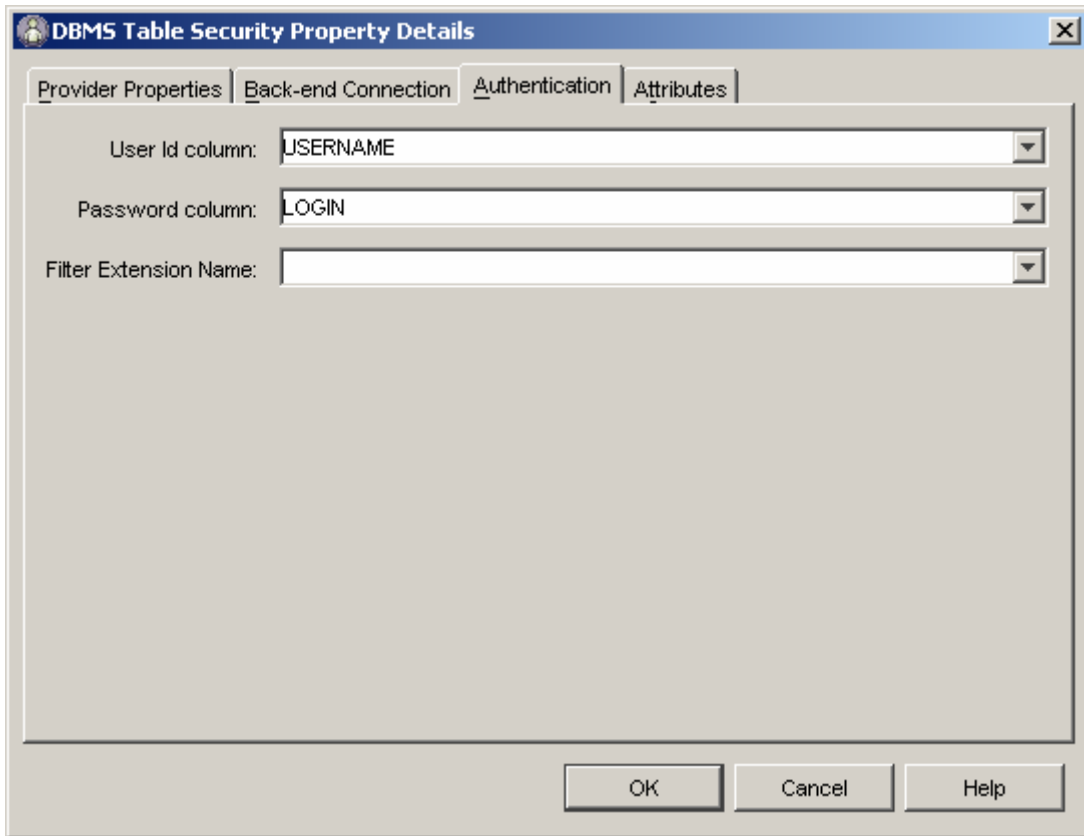


Figure 74: Backend Security Provider Authentication Tab

- 7 Click the [OK] button to save the new Security Provider.

The new security provider is added to the list of security providers on the Security Provider tab in the Rhythmyx Server Administrator. Users will not be able to log in to Content Explorer successfully, however, until you have *added them to Roles* (see "Implementing a Web Server Security Provider" on page 75) as well.

Implementing a Windows NT Security Provider

You can only use the Windows NT Security Provider on machines whose operating system is based on the Windows NT technology (for example, Windows 2000, Windows Advanced Server 2003, and Windows XP). This security provider uses the security mechanisms in the Windows operating system to authenticate users. Note that this security provider cannot provide Roles for the user. You must add the user to Roles separately.

Let us assume that Nancy Needlenose, Tiara Tuna, and Bobby Bluefin are defined as users on a Windows server machine named FastForward. We want to use this server to authenticate these users. Bobby Bluefin also has rights to read the list of users defined on this server, and his password is DeepSea.

To implement a Windows NT Security Provider:

- 1 Start the Rhythmyx Server Administrator.
- 2 Click the Security tab. The default subtab is Security Providers. Select this tab if it is not already selected.
- 3 On the Security Providers tab, click the [New] button.
- 4 On the Select New Security Provider Type dialog, select *Windows NT Security Provider* from the drop list.

Rhythmyx displays the NT Security Provider Details dialog.

- 5 In the Security Provider Name field, enter *FastForward Security Provider*.
- 6 In the Domain/Server Name field, enter *\\FastForward*.
- 7 In the User ID field, enter *Bobby Bluefin*.
- 8 In the Password and Confirm Password fields, enter *DeepSea*.

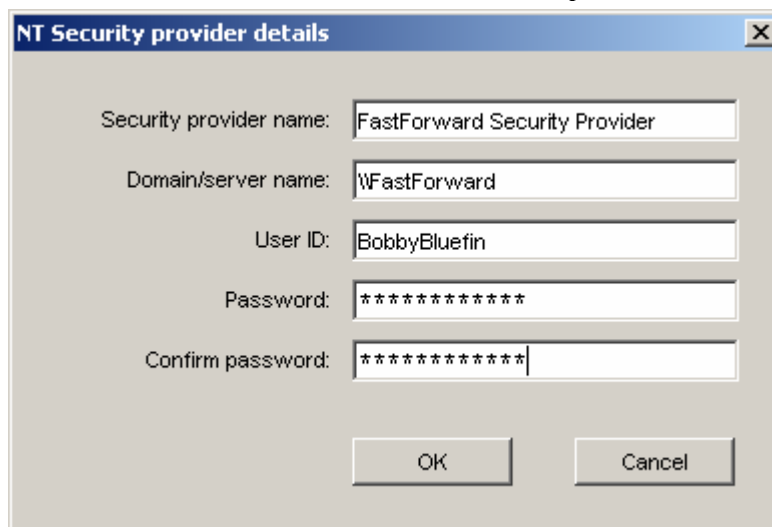


Figure 75: FastForward Windows NT Security Provider

- 9 Click the [OK] button to save the Security Provider.

The new security provider is added to the list of security providers on the Security Provider tab in the Rhythmyx Server Administrator. Bobby Bluefin, Nancy Needlenose, and Tiara Tuna will not be able to log in to Content Explorer successfully, however, until you have *added them to Roles* (see "Implementing a Web Server Security Provider" on page 75) as well.

Implementing a Web Server Security Provider

A Web Server Security Provider relies on an existing Web server or Web application server to provide authentication. To use the Web Server Security Provider, you must interface to Rhythmyx as a servlet under the Web server or Web application server. This type of authentication is useful when implementing a single sign-on model using an identity and access management system such as Netegrity's SiteMinder, or when accessing Rhythmyx through a portal such as BEA WebLogic.

When using a Web Server Security Provider, if the associated Web server can authenticate the user, Rhythmyx grants access.

Rhythmyx ships with a default Web Server Security Provider that is configured to interface with the Rhythmyx servlet. Once you deploy the Rhythmyx.war file to your Web server or Web application server, users should be able to authenticate with no further intervention from you.

Adding Users to Rhythmyx Roles

While some security providers, such as the Directory Connection Security Provider and the Web Server Security Provider, allow you to authenticate the user directly into Rhythmyx Roles, others, such as the Windows NT and Backend Table Security Providers, require you to add users to Roles manually. Even if you use a security provider that automatically authenticates the user into their Roles, you may prefer to control Role Membership manually.

In any case, you should only add users to their Roles after you have defined a Security Provider. When adding users, you can catalog a Security Provider to retrieve its list of available users, which simplifies the process of adding users significantly.

For details about adding users to Roles, see [Adding Users to a Role](#).

Updating Default Security Settings

When you first install the Rhythmyx server, access is controlled by a default Backend Security Provider, which defines the following users:

- admin1
- admin2
- rxserver (See IMPORTANT NOTE below)
- artist1
- artist2
- author1
- author2
- designer1
- designer2
- editor1
- editor2
- qa1
- qa2

Each of these users is assigned the default password *demo*.

Since these users and the default password are available on every new installation of the Rhythmyx server, you will probably want to make one of the following modifications to prevent unintended access to your system:

- Assign new passwords to the default users;
- Remove the default users and replace them with new users.

IMPORTANT NOTE: The user `rxserver` is used internally by the Rhythmyx server. **DO NOT REMOVE OR MODIFY THIS USER.** If you remove or modify this user, your Rhythmyx server will not work correctly.

Changing the Default Server Access Control List

The default users and their passwords are stored in a backend database table named `USERLOGIN`. This table consists of two columns:

- `USERID`
- `PASSWORD`

The value in the `PASSWORD` column for each user is *demo*. One quick way to update the value in this column is to write a SQL script to change the value. You can either update all rows with the same new value or you can assign a different value to each column.

If you use an RDBMS that includes an enterprise manager or similar client, (such as Microsoft SQL Server or Oracle), you can modify the value in each column directly. Use Enterprise Manager to open the USERLOGIN table and manually change the password in each column.

If you use Oracle as your RDBMS, you can use the 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 the value of `userid` and `password` accordingly.

The new password is in effect immediately.

Replacing the Default Users with New Users

You can also prevent unintended access to your system by deleting the default users. It is best to implement this option *after you add your production users* (see "Implementing Security in the Production Environment" on page 59).

If you choose this option, it is strongly recommended that you do not delete the admin1 and admin2 users.

WARNING: DO NOT REMOVE THE USER `rxserver` UNDER ANY CIRCUMSTANCES! This member is used internally in the Rhythmyx server. If you remove this user, Rhythmyx will not work properly (Aging Transitions and Relationship processing will fail).

To implement this option, remove the users (other than admin1, admin2, and rxserver) from the USERLOGIN table. You can delete the users quickly by writing a SQL script that deletes the unwanted users.

If you use an RDBMS with an enterprise manager client, you can delete the users from the table manually.

- 1 In Enterprise Manager, select the rows of the users you want to delete, right click on the table and from the popup menu, choose *Delete*.
- 2 Enterprise Manager displays a confirmation dialog. Confirm that you have not selected admin1, admin2, or rxserver before clicking the [Yes] button.

If you use Oracle as your RDBMS, you can use the Oracle SQL*Plus application:

- 1 At the prompt change the delete the author1 user by entering the following script:

```
delete from userlogin where userid='author1';
```

- 2 Repeat for each default user other than admin1, admin2, and rxserver, changing the value of `userid` accordingly.

CHAPTER 6

Setting Up Publishing in the Production Environment

Production Web servers that serve content to the public are typically located on a machine accessible from outside of your corporate firewall, typically in the demilitarized zone of your system infrastructure. When publishing your content, you need to move your published pages to the production Web server through the firewall. Three options are available.

- Install the publisher on your production Rhythmyx server and map or mount the Web server as a drive on your Rhythmyx server. You can also use a UNC path to access the Web server provided the Rhythmyx server has permissions to access the Web server's host machine. If you use any of these techniques, you can then use file system publishing to publish directly to the production Web server.

This option requires you to "own" the "external" environment (the environment outside of the firewall) as well as the "internal" environment (the environment inside the firewall). While this requirement may be feasible for intranets, it is not practical for serving content to the Internet, and in either case you must have strong controls over access to both machines.

- Use FTP publishing from a publisher on your Rhythmyx server to your production Web server.

If you choose this option, you may also want to use techniques such as SSH tunneling to ensure secure communications between the publisher and the Web server.

- Install a publisher on the production Web server that publishes to the Web server's local file system.

If you choose this option, you may want to implement SSL to secure communication between the Rhythmyx server and the remote Publisher on the Web server.

The following sections describe each of these options. For the purpose of these exercises, we will assume that you have created the local file system or FTP publishing configurations described in *Configuring Publishing*.

Once you have defined the delivery of your content, set up scheduled publishing to automate publishing of your Editions.

Publishing to a Mapped or Mounted Drive

When publishing to a mapped or mounted drive or using a UNC path, you will need to update the Site configuration for your site to point to the correct locations.

For example, assume that:

- we will publish the Express Investments Site to the URL *www.expressinvestments.com*;
- the Site ID for the Express Investments Site in Rhythmyx is 311;
- the publish location is one of the following:
 - on a Windows machine mapped to *P:\ExpressInvestments*;
 - on a Windows machine at the location *\\Quail\htdocs\ExpressInvestments* (the Rhythmyx server has permissions to access this machine);
 - On a Unix machine, mounted to the Rhythmyx server as */XIHome*.

We will need to update the Site registration for the Express Investments Site as follows:

- Change the value in the **Site Address (URL)** field to *www.expressinvestments.com*.
- In the **Home Page (URL)** field, find the *sys_siteid* attribute in the URL and change the value of the attribute to *311*.
- In the **Publishing Root Location**:
 - For a Windows system publishing to a mapped drive, change the value to *P:\ExpressInvestments*.

Edit Site Properties	
Site(id): (301)	
*Site Name	Express Investments
Description	Represents the Express Investments web site
Site Address (URL)	www.expressinvestments.com
Home Page (URL)	?sys_revision=2&sys_siteid=311&sys_authtype=
Publishing Root Location	P:\ExpressInvestments
*Publisher	Localhost Publisher Default Port
Status	Active
Folder Root	//Sites/ExpressInvestments
Global Template	
Nav Theme	
FTP Information:	
IP Address	127.0.0.1
Port Number	21
User ID	
Password	
Save Cancel	

Figure 76: Express Investments Site Properties Modified for a Windows Production Server

- For a Windows system publishing to a UNC path, change the value to `\\Quail\htdocs\ExpressInvestments`

Edit Site Properties	
Site(id): (305)	
*Site Name	Express Investments
Description	Represents the Express Investments web site
Site Address (URL)	http://ExpressInvestments.com
Home Page (URL)	http://localhost:9992/Rhythmyx/xs_Home_cas/pe
Publishing Root Location	\\Quail\htdocs\ExpressInvestments
*Publisher	Express Investments Publisher
Status	Active
Folder Root	//Sites/ExpressInvestments
Global Template	enterprise-global-template
Nav Theme	
FTP Information:	
IP Address	127.0.0.1
Port Number	21
User ID	
Password	
Save Cancel	

Figure 77: Express Investments Site Properties Modified for publishing to a UNC path

- For a Unix system, change the value to `/ExpressInvestments`

Edit Site Properties	
Site(id): (301)	
*Site Name	Express Investments
Description	Represents the Express Investments web site
Site Address (URL)	www.expressinvestments.com
Home Page (URL)	?sys_revision=2&sys_siteid=311&sys_authype=
Publishing Root Location	/ExpressInvestments
*Publisher	Localhost Publisher Default Port
Status	Active
Folder Root	//Sites/ExpressInvestments
Global Template	
Nav Theme	
FTP Information:	
IP Address	127.0.0.1
Port Number	21
User ID	
Password	
Save Cancel	

Figure 78: Express Investments Site Properties for a Unix Production Server

Publishing to a Remote Web Server Using FTP

When publishing to a remote Web server using FTP, we must make the following changes:

- In the FTP Publisher configuration, we must update the IP address and port of the Publisher. These values are not updated when Multi-Server Manager deploys the Publisher configuration.
- In the Site registration, we must update the FTP data to point to the FTP server on your production Web server.

For example, assume that we have deployed Rhythmyx to a machine with the IP address 255.255.255.84, and that the Rhythmyx Publisher users port 9580. Assume the following data for the FTP server:

- The IP address of the production Web server is 255.255.255.112.
- The FTP port of the production Web server is 81.
- The FTP user on the production Web server is *FastForwardFTP*.
- The *FastForwardFTP* user's password is *FFWCM*.

We will make the following changes to the FTP publishing configuration:

- On the FTP Publisher configuration:
 - In the **IP Address** field, change the value to *255.255.255.84*.
 - In the **Port** field, change the value to *9580*.

NOTE: Multi-Server Manager does not change these values when you deploy the publishing configuration from the development server to the production server. These values are not Rhythmyx IDs, so MSM is not aware of them and cannot replace them with new values from the target server.

- On the Site registration:
 - In the **IP Address** field, change the value to *255.255.255.112*.
 - In the **Port** field, change the value to *81*.
 - In the **User ID** field, change the value to *FastForwardFTP*.
 - In the **Password** field, change the value to *FFWCM*.

Publishing to a Remote Rhythmyx Publisher

Publishing to the production Web server using a remote publisher installed on the Web server is often the most secure option. Since the Publisher is located on the production Webserver, you can deliver the content directly to the Web server's file system.

For the purposes of this exercise, we will assume the following:

- The production Web server is named Quail, with an IP address of 255.255.255.85. It is running Apache as the Web server, and the content will be served from C:\Program Files\Apache Group\Apache2\htdocs\ExpressInvestments.
- We want the Rhythmyx publisher to use port 9580.
- The URL of the Web site is www.expressinvestments.com.
- The Site ID of the Express Investments Site in Rhythmyx is 311.
- The production Rhythmyx server is named Sparrow and the Rhythmyx port is 8982.

To implement publishing to a remote publisher:

- 1 Install the remote publisher on the Web server.
- 2 Configure the publisher on the Rhythmyx server.
- 3 Update the Express Investments Site registration to point to the correct locations on the production Web server.

You may also want to secure publishing by enabling SSL. For details about enabling SSL, see the Server Properties dialog Help. The certificates for both the Rhythmyx server and the remote publisher should be based on the same root certificate.

Installing a Remote Publisher in a Windows Environment

To install a remote publisher in a Windows environment:

- 1 Insert the Rhythmyx CD-ROM into the CD drive on your production server.
- 2 On the Rhythmyx CD, browse to `windows_cd/setup`, and double-click on the `PublisherSetup.exe` file.

The installer begins and displays the Welcome dialog of the Publisher installation wizard.

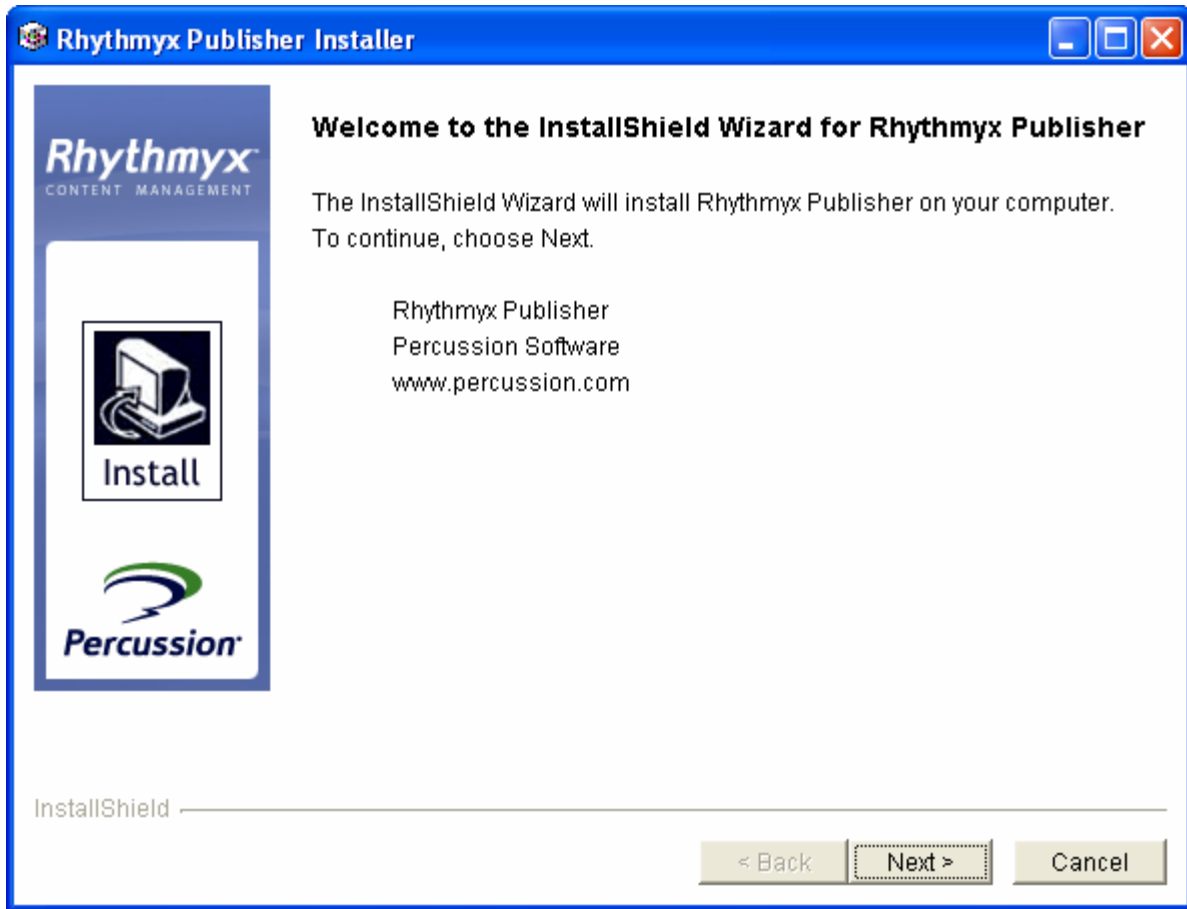


Figure 79: Remote installation wizard Welcome Dialog

- 3 Click the [Next] button.

The installation wizard displays the License Agreement dialog.

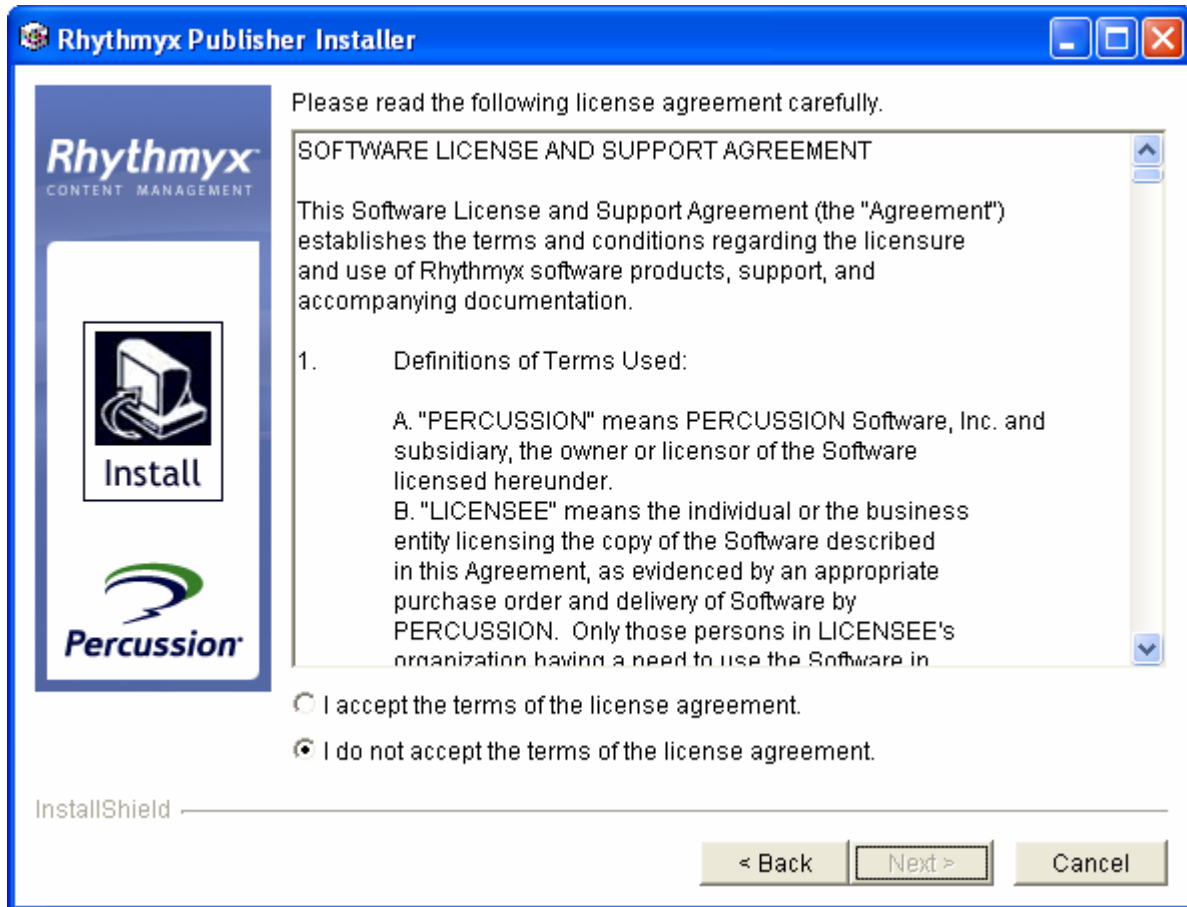


Figure 80: Publisher remote installation wizard License dialog

- 4 Click the [Next] button.

- 5 The installation wizard displays the Choose Installation Type dialog with the **New install** radio button selected.

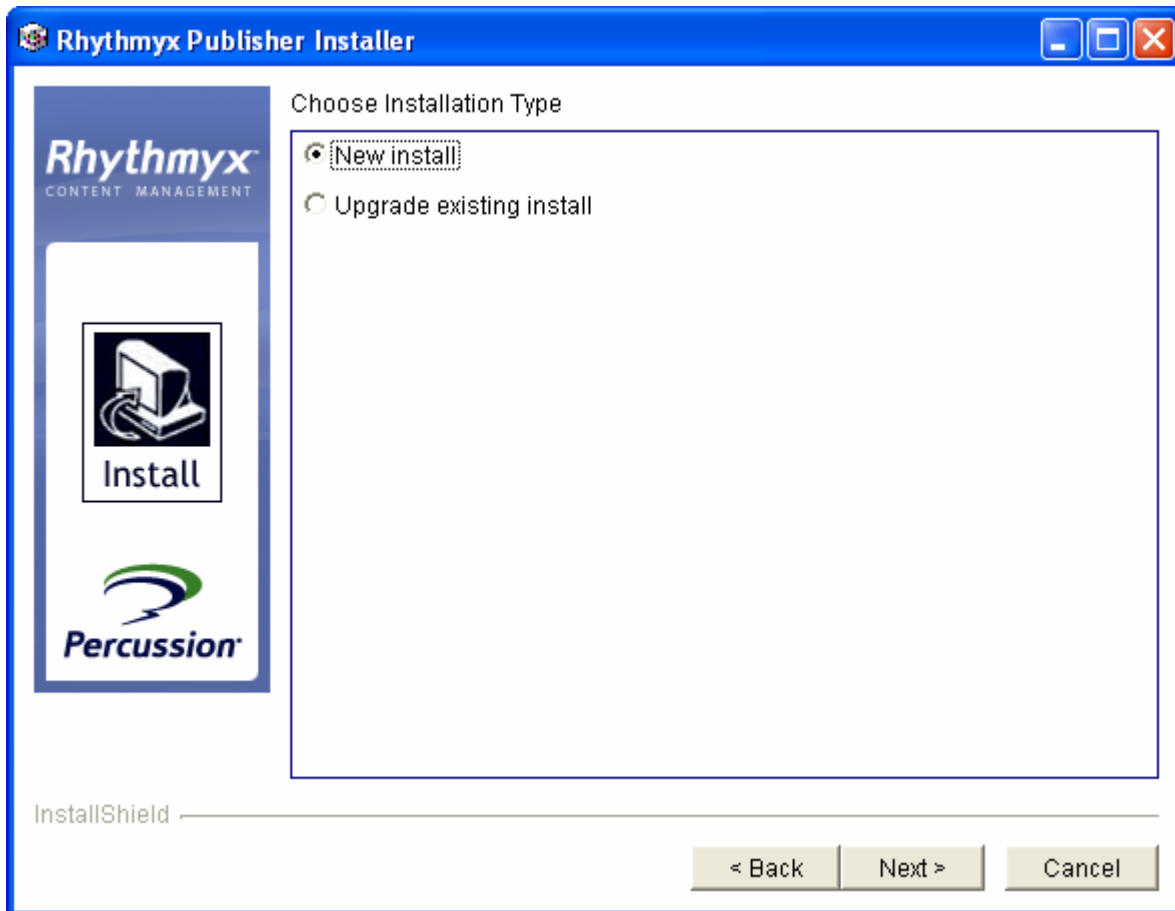


Figure 81: Remote Publisher installation wizard Installation Type dialog

- 6 Click the **[Next]** button.

The installation wizard displays the Installation Directory dialog.

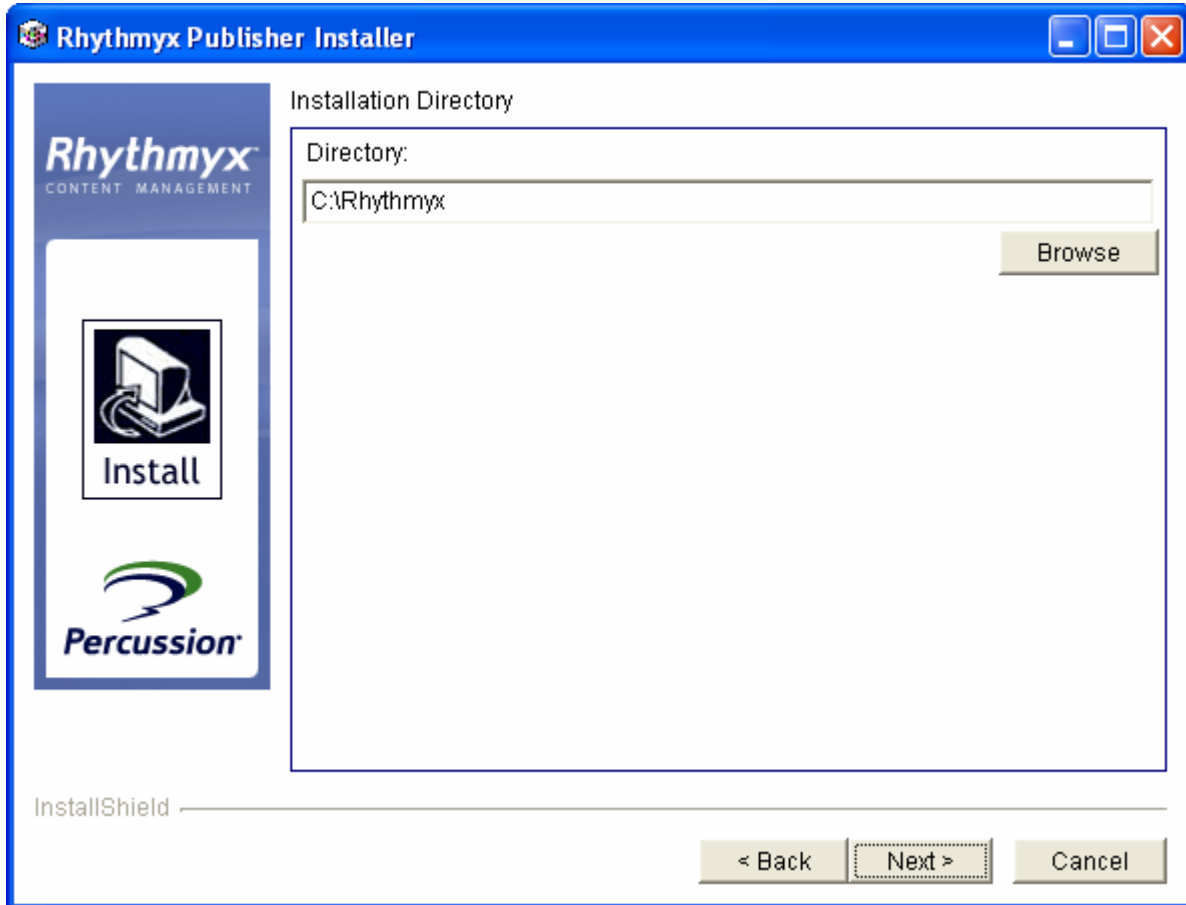


Figure 82: Remote Publisher installation wizard Installation Directory dialog

- 7 The default installation location is C:\Rhythmyx. If you want to install to a different location, enter the path in the Directory field, or use the **[Browse]** button to browse to that location. When you have defined the installation location, click the **[Next]** button.

The installation wizard displays the Select features to install dialog.

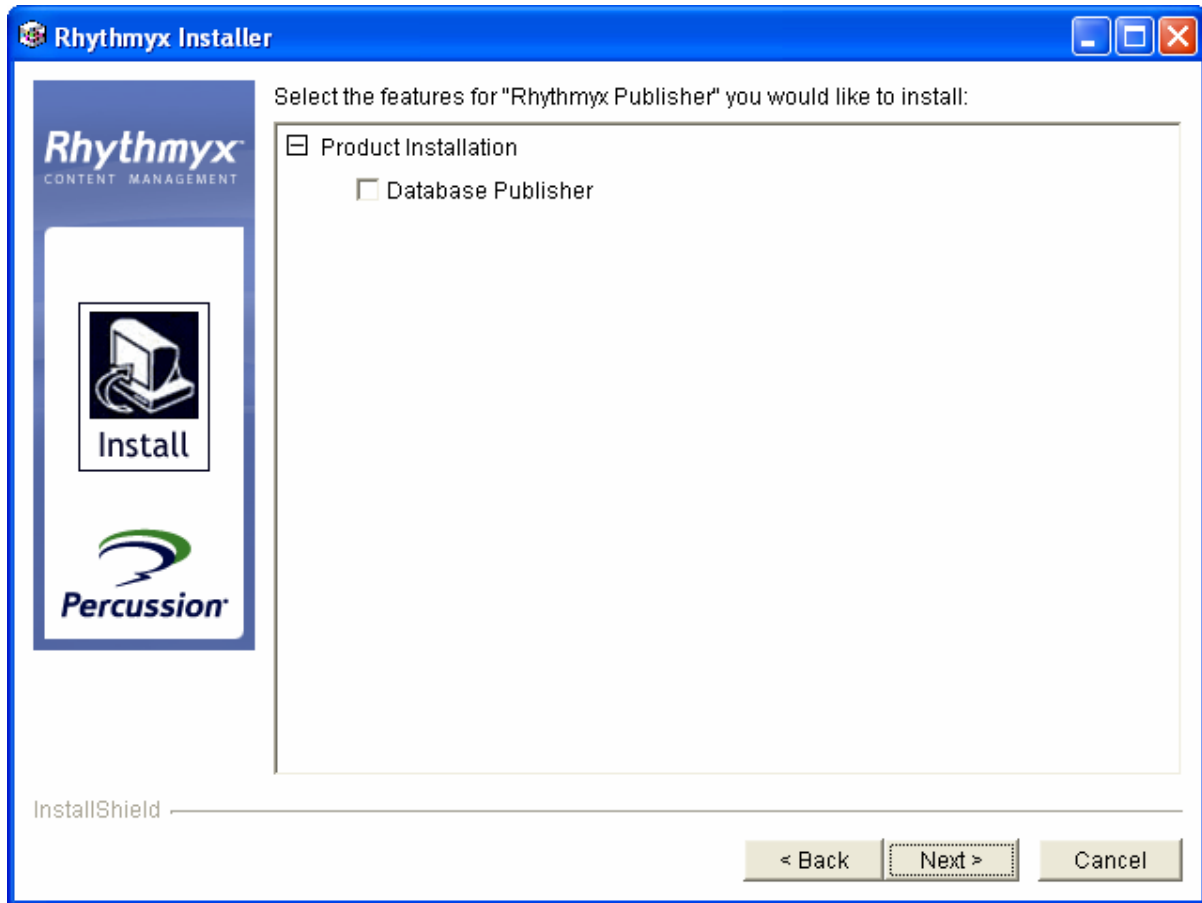


Figure 83: Remote Publisher installation wizard Select Features dialog

- 8 For the purposes of this exercise, we are not installing any of these features, so leave all boxes unchecked and click the [Next] button.

The installation wizard displays the Rhythmyx Server Settings dialog.

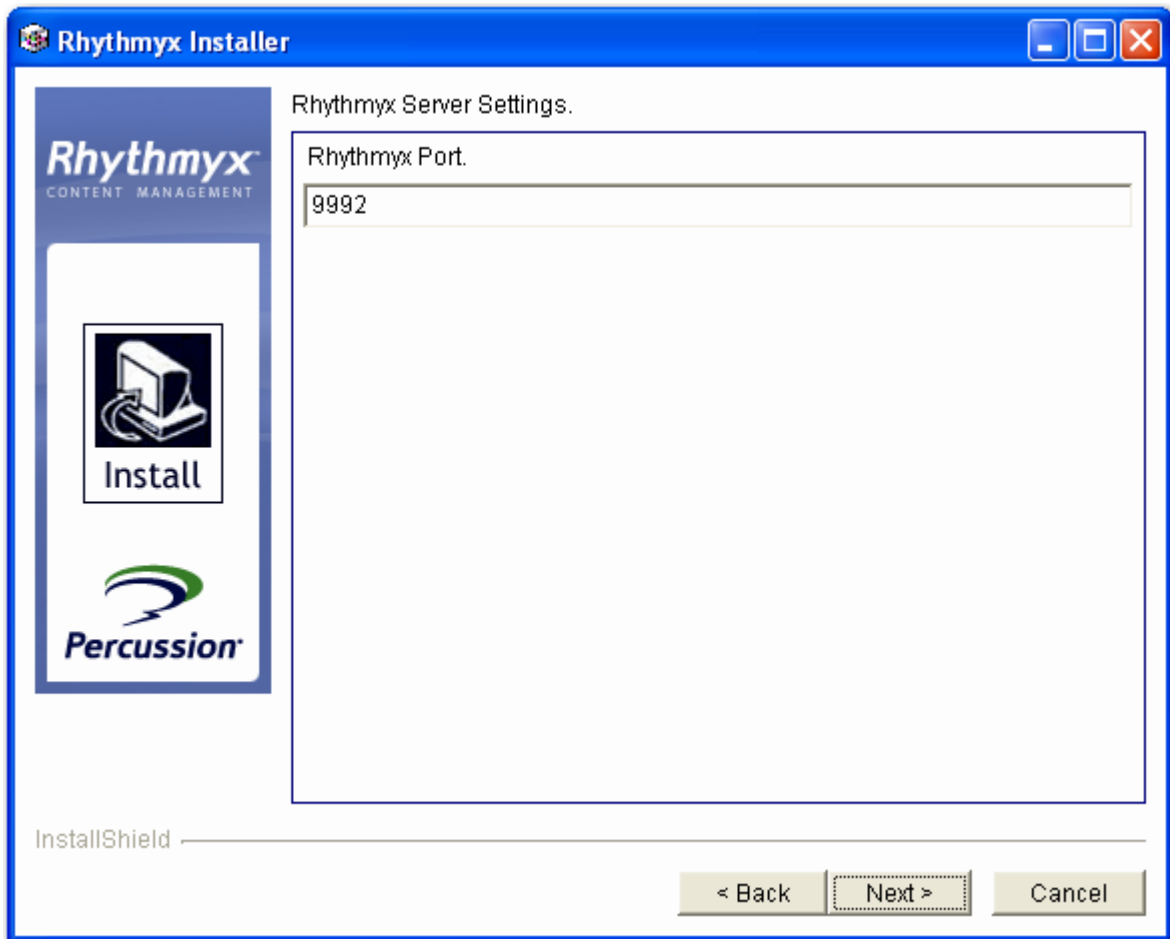


Figure 84: Rhythmyx Server Settings dialog

- 9 We will use the default port (9992). Click the [Next >>] button.

The installation wizard displays the Application Server Settings dialog

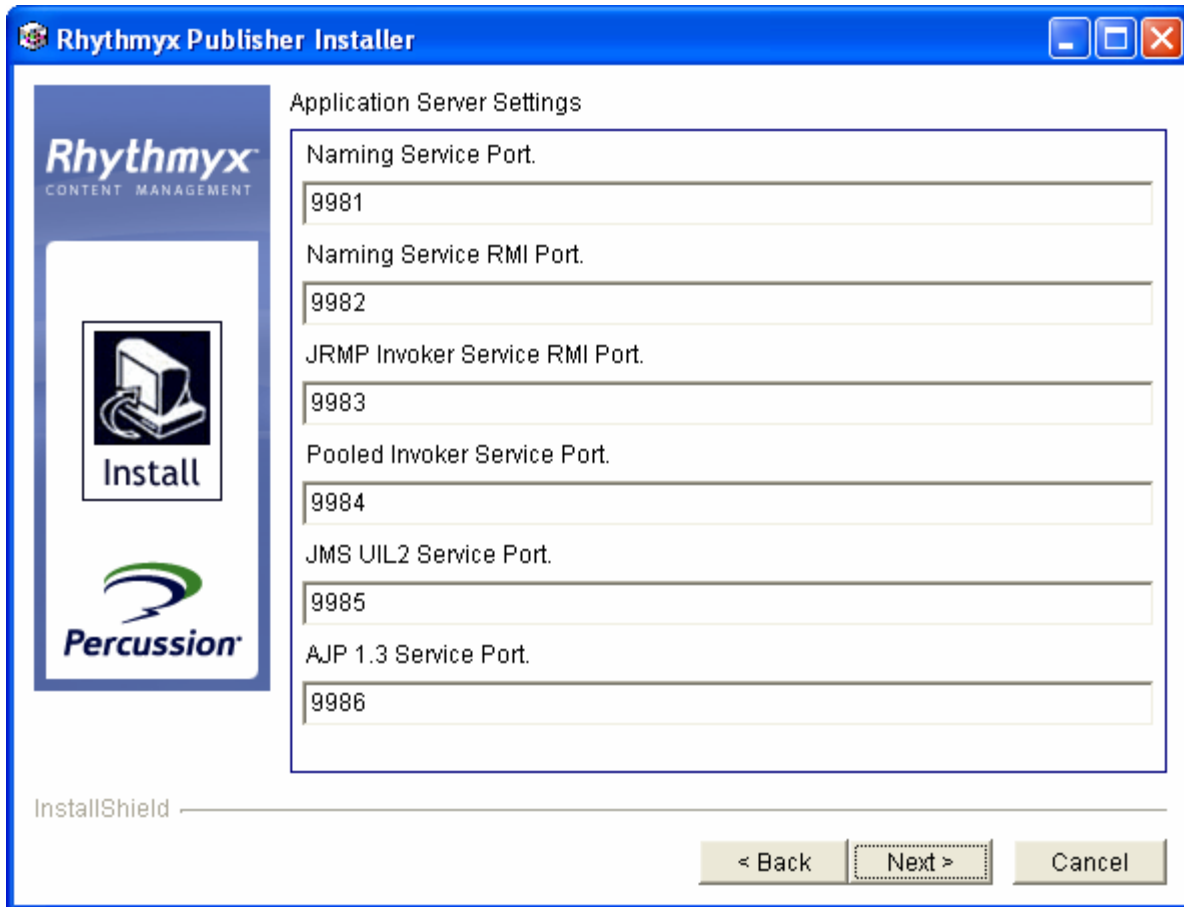


Figure 85: Remote Publisher Application Server Settings dialog

As in the standard Rhythmyx installation, these ports are provided for information only. You should not modify any of these ports unless they conflict with a port already in use.

10 Click the [Next] button.

The installation wizard displays the installation summary dialog.



Figure 86: Remote Publisher installation wizard Launch Install dialog

- 11 Click the [Next] button to launch the installation.
- 12 When the installation is complete, the installer displays the readme. Review the readme, then click the [Next] button.
- 13 The installer displays the Finish dialog. Click the [Finish] button to complete the installation and close the dialog.

Installing a Remote Publisher in a Solaris Environment

To install a remote publisher in a Solaris environment:

- 1 Create (or have your administrator create) a user in Solaris to install the Rhythmyx Publisher. The user you create must be the owner of all files copied from the CD-ROM; must have read permissions on all installer files; and must have execute and read permissions on the following files:
 - Publisher.so
 - PublisherSetupConsole.sh

2 Copy the contents of the installation CD-ROM to the install user's home directory (`/export/home/username`). (You cannot run the Publisher installation directly from the CD-ROM.)

3 From the user's home directory, change to the directory containing the Rhythmyx setup installation files.

```
$ cd rxinstaller/setup
```

4 Run the shell script `PublisherSetupConsole.sh`.

```
$ sh PublisherSetupConsole.sh
```

NOTE: If you receive a message about insufficient disk space, create a temporary directory under the install user's home directory called `tmp`.

```
$ cd /export/home/username
```

```
$ mkdir tmp
```

Then run the install script again, using this command line:

```
$ sh PublisherSetupConsole.sh -is:tempdir /export/home/username/tmp
```

- 5 The InstallShield Wizard is launched and displays the following text. Enter 1 and press Enter to continue.

```
Welcome to the InstallShield Wizard for Rhythmyx Publisher

The InstallShield Wizard will install Rhythmyx Publisher on your computer.
To continue, choose Next.

Rhythmyx Publisher
Percussion Software
www.percussion.com

Press 1 for Next, 3 to Cancel or 4 to Redisplay [1] 1
```

Figure 87: Publisher Install Wizard

- 6 Press Enter to read the license agreement; enter q and press Enter to quit when you have finished.

```
Please read the following license agreement carefully.

SOFTWARE LICENSE AND SUPPORT AGREEMENT

1. GRANT: PERCUSSION grants to LICENSEE a perpetual, non-exclusive,
non-transferable license (the
"License") to use each Product on the Designated CPU as described in a fully
executed purchase order or
other ordering documents. Designated CPU must be owned or leased by LICENSEE.

2. TERM AND TERMINATION: This Agreement shall be effective on the date LICENSEE
acquires the
Product and remain in force until terminated. PERCUSSION may immediately
terminate all Licenses without
further obligation or liability if: a.) LICENSEE fails to pay amount due
hereunder and continues to be
delinquent for a period of (30) days after the last day on which payment is
due; or b.) a petition alleging
insolvency is filed by or against LICENSEE, or a receiver is appointed for any
part of LICENSEE'S business,
or its assets are assigned for the benefit of creditors; or c.) LICENSEE

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

Figure 88: License Agreement

- 7 Enter 1 and press Enter to accept the terms of the license agreement.

```
Please choose from the following options:

[X] 1 - I accept the terms of the license agreement.
[ ] 2 - I do not accept the terms of the license agreement.

To select an item enter its number, or 0 when you are finished: [0] 1
```

Figure 89: Accepting License Agreement

- 8 Enter 0 and press Enter to quit out of the prompt. (If you don't enter 0, the script keeps prompting you to accept the license agreement.)

```
[X] 1 - I accept the terms of the license agreement.  
[ ] 2 - I do not accept the terms of the license agreement.  
  
To select an item enter its number, or 0 when you are finished: [0] 0
```

Figure 90: Quitting Out of the License Agreement

- 9 Enter 1 and press Enter for new install.

```
Choose Installation Type  
  
Choose Installation Type  
  
1. New install  
2. Upgrade existing install  
  
Enter one of the options above: [1] 1
```

Figure 91: Choosing New Installation Type

- 10 Rhythmyx displays the default location for the installation, which is under the install user's home directory. Press Enter to accept the default and continue.

```
-----  
Installation Directory  
  
Enter a directory: [/export/home/bobbie/Rhythmyx] █
```

Figure 92: Publisher Default Installation Directory

- 11 The script asks if you want to create the installation directory if it doesn't exist. Enter 1 to create the directory and continue.

```
1. OK  
2. Cancel  
  
The directory does not exist. Do you want to create it? [1] 1
```

Figure 93: Prompt to Create the Installation Directory

- 12** Do not select either of the two features displayed for the Rhythmyx Publisher. Enter 0 to continue with the installation.

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

Rhythmyx Publisher

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

1. [ ] Database Publisher

Other options:

0. Continue installing

Enter command [0]
```

Figure 94: Publisher Options

- 13** Accept the default bindPort number of 9992 by pressing Enter. (The bind port number must be in the range 1025 through 65535, as numbers 1 through 1024 are reserved by many companies.)

```
Rhythmyx Server Settings.
bindPort [9992] █
```

Figure 95: Choose Bind Port Number

- 14** The installer displays a warning that all port numbers in the installation must be unique. Follow the instructions to change the port number, if necessary, or press Enter to continue. If you wish, you can enter 1 at the prompt to prevent the installer from displaying this warning message in the future.

```
Rhythmyx Server Settings.

bindPort [9992]

Press 1 for Next, 2 for Previous, 3 to Cancel or 4 to Redisplay [1] 1

  1. Don't repeat this warning
  2. Continue to show this warning

Each port number in this installation must be unique.
If the port number on this page duplicates any other in this installation,
then return to this page and change the port number. [1]
```

Figure 96: Unique Port Number Warning

- 15** The installation wizard displays a set of application server ports. These ports are used internally by the Rhythmyx application server. Check to confirm that these ports are not in use. If any of the ports are in use, change the port to one that is not in use.

```
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]
ATP 1.3 Service Port. [9237]
```

Figure 97: Application Server Port Listings

- 16** The installer displays a warning that all port numbers in the installation must be unique. Follow the instructions to change the port number, if necessary, or press Enter to continue. If you wish, you can enter 1 at the prompt to prevent the installer from displaying this warning message in the future.

```
  1. Don't repeat this warning
  2. Continue to show this warning

Each port number in this installation must be unique.
If the port number on this page duplicates any other in this installation,
then return to this page and change the port number. [1] 1
```

Figure 98: Unique Port Number Warning

- 17 Enter 1 and press Enter to confirm the location of your Rhythmyx Publisher installation.

```
Rhythmyx Publisher will be installed in the following location:
/export/home/bobbie/Rhythmyx

for a total size:
24.4 MB

Press 1 for Next, 2 for Previous, 3 to Cancel or 4 to Redisplay [1] 1
```

Figure 99: Publisher Installation Location Prompt

- 18 The installation runs, displaying a progress bar. When it has finished, it displays the `readme.txt` file, which you should read as it contains important information. (You may have to scroll up to see the `readme.txt` file from the beginning.)

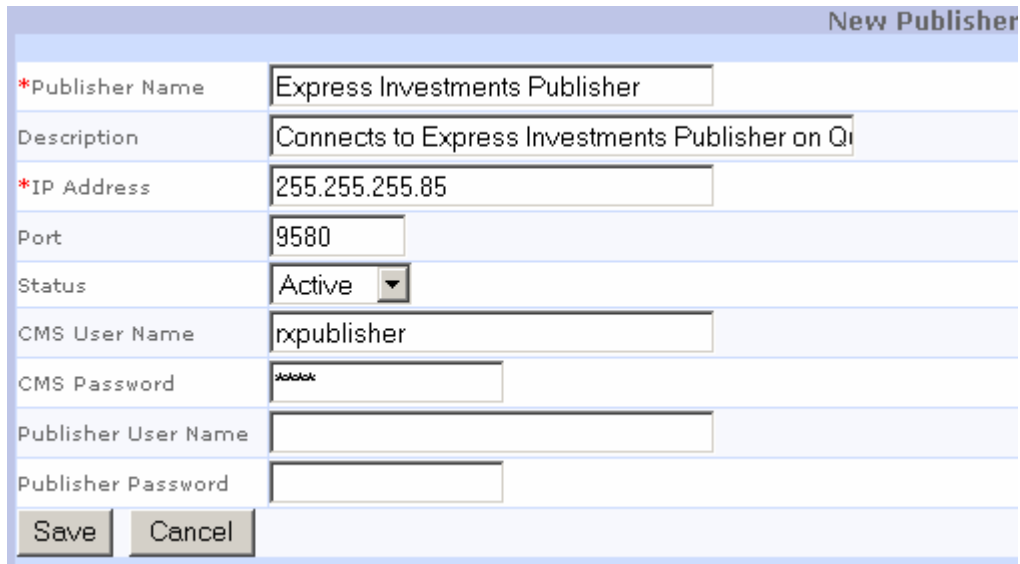
Registering and Configuring the Remote Publisher

Once you have installed the remote publisher, you must define a publisher registration to allow your Rhythmyx server to connect to it. The registration automatically includes required publisher configuration parameters. Additional optional parameters are also available. For a complete list of these parameters, see the document *Implementing Publishing in Rhythmyx*.

To define a publisher configuration for the remote publisher:

- 1 Start a browser and log in to Content Explorer.
- 2 Click on the Publishing tab.
- 3 Under Publishers, click the [By Name](#) link.
- 4 Click on the [New Publisher](#) link.
Rhythmyx displays the New Publisher page.
- 5 In the Publisher Name field, enter *Express Investments Publisher*.
- 6 In the Description field, enter *Connects to Express Investments Publisher running on Quail*.
- 7 In the IP Address field, enter *255.255.255.85*.
- 8 In the Port field, enter *9580*.

- 9 In the CMS User Name field, enter *rxpublisher*. In the CMS Password field, enter *demo*. (The user *rxpublisher* is an internal user that publishers use to access Rhythmyx.)



New Publisher	
*Publisher Name	Express Investments Publisher
Description	Connects to Express Investments Publisher on Q
*IP Address	255.255.255.85
Port	9580
Status	Active ▼
CMS User Name	rxpublisher
CMS Password	•••••
Publisher User Name	
Publisher Password	
Save Cancel	

Figure 100: Express Investments Publisher Registration

- 10 Click the [Save] button to save the registration.
Rhythmyx returns you to the Publisher Editor.

- 11 To view the publisher registration with configuration parameters, click the Express Investments Publisher link. Note the configuration parameters: debug, filesystem, ftp, and statusurl.

Publisher(id): Express Investments Publisher(303) Edit Publisher

*Publisher Name	<input type="text" value="Express Investments Publisher"/>
Description	<input type="text" value="Connects to Express Investments Publisher on Q"/>
*IP Address	<input type="text" value="255.255.255.85"/>
Port	<input type="text" value="9580"/>
Status	Active <input type="button" value="v"/>
CMS User Name	<input type="text" value="rxpublisher"/>
CMS Password	<input type="password" value="xoxoxox"/>
Publisher User Name	<input type="text"/>
Publisher Password	<input type="password"/>

Configuration Parameters Add User Param

	Name	Value	Description
<input type="checkbox"/>	debug	true	test debug
<input type="checkbox"/>	filesystem	com.percussion.publisher.client.PSFilePublisherHandler	test filesystem
<input type="checkbox"/>	ftp	com.percussion.publisher.client.PSFtpPublisherHandler	test ftp
<input type="checkbox"/>	statusurl	/Rhythmyx/sys_pubSupport/pubstatus.xml	test statusurl

Figure 101: Express Investments Publisher with Configuration Parameters

Updating the Express Investments Site Registration

In order to publish the Express Investments Site on our Web server, we must make the following changes to the Express Investments Site registration:

- Modify the value in the Site Address (URL) field to the value that users will enter into their browser to go to the Express Investments Web site. (We will assume that this URL is `www.expressinvestments.com`.)
- Modify the Publisher drop list to use the Express Investments Publisher; and
- Modify the value in the Publishing Root Location field to specify the correct directory in the Web server file tree (`C:\Program Files\Apache Group\Apache2\htdocs\ExpressInvestments`).

To modify the Express Investments Site Registration:

- 1 Start a browser and log in to Content Explorer.
- 2 Click the Publishing tab.
- 3 In the left navigation, under Sites, click the By Name link.

Rhythmyx displays the Sites Editor.

- 4 Click the Express Investments link.

Rhythmyx displays the Edit Site page for the Express Investments Site registration.

- 5 Change the value in the **Site Address** field to *www.expressinvestments.com*.
- 6 In the **Publisher** drop list, choose the *Express Investments Publisher*.
- 7 Change the value in the **Publishing Root Location** field to *C:\Program Files\Apache Group\Apache2\htdocs\ExpressInvestments*.
- 8 Click the [**Save**] button to save your changes.

Using SSL to Secure Remote Publishing

The Secure Socket Layer (SSL) is a protocol that ensures the authenticity of information exchanged by servers. It uses a digital certificate, which identifies the sender, and public and private keys for signing messages and encrypting/decrypting data. Enabling SSL ensures secure communication between the Rhythmyx server and the remote Publisher. You must enable SSL on both the Rhythmyx server and the remote Publisher to enable them to communicate via SSL. (Note that when you enable SSL on the Rhythmyx server, content contributors can also connect to the server via SSL, ensuring that their work is secure as well.)

You can obtain a digital certificate to enable SSL publishing from a recognized certificate authority (such as VeriSign or Thawte) or use a self-signed certificate. Communication will be equally secure in both cases. Certificates from a certificate authority are rather expensive, but will be immediately recognized by your users' browsers. If you use a self-signed certificate, the browser will not recognize it and users will be prompted to indicate whether they trust the certificate.

For details about obtaining a digital certificate from a certificate authority, see the Web site of the certificate authority you want to use.

Enabling SSL on the Rhythmyx Server

To enable SSL on the Rhythmyx server:

- 1 Obtain a digital certificate from a certificate authority or create your own self-signed certificate.

NOTE: Keystore files must be stored in the directory `<Rhythmyxroot>/AppServer/server/rx/conf` (or in a subdirectory of that directory).

- 2 Start the Rhythmyx Server Properties Editor.
You can only run the Server Properties Editor from the local Rhythmyx server. Go to your Rhythmyx installation root directory and run `RhythmyxServerPropertiesEditor.exe` or `RhythmyxServerPropertiesEditor.sh`.
- 3 In the **SSL KeyStore File** field of the Rhythmyx Server Properties Editor, enter the path to the certificate keystore file.
- 4 In the **SSL Key Password**, enter the password of the keystore file. Enter the same value in the **Confirm SSL Key Password** field.
- 5 In the **SSL Port** field, specify the Rhythmyx server will use for SSL communication. The default SSL port for Rhythmyx is `9443`.
- 6 You should not modify the **Allowed SSL Ciphers** field.
- 7 Click the **[Save]** button to save your changes.

You must restart the Rhythmyx server for your changes to take effect.

To confirm that you have configured SSL correctly, start a browser and log in to your Rhythmyx server via SSL; for example:

```
https://10.10.10.100:9443/Rhythmyx
```

Remember to use *https* (secure http) as the protocol rather than the unsecure http protocol. If SSL is configured correctly and you entered the address correctly, you should connect to Rhythmyx normally, but via https instead of http. If you use a self-signed certificate, you may be prompted to trust the certificate.

Enabling SSL on the Remote Rhythmyx Publisher

The Server Properties Editor is not available on stand-alone Rhythmyx Publishers, and cannot be repointed from a server to a publisher. Enabling SSL on a stand-alone Rhythmyx Publisher requires manual configuration.

Obtain a digital certificate from a certificate authority or create your own self-signed certificate. Keystore files must be stored in the directory <Rhythmyxroot>/AppServer/server/rx/conf (or in a subdirectory of that directory).

You must add a <Connector> node to the file <RxPublisherRoot>/AppServer/server/rx/deploy/jbossweb-tomcat55.sar/server.xml.

```
<Connector acceptCount="100" address="{ jboss.bind.address }"  
clientAuth="false" connectionTimeout="20000" disableUploadTimeout="true"  
enableLookups="false"  
keystoreFile="C:\RhythmyxPublisher\AppServer\rx\conf\RxCpub.keystore"  
keystorePass="mypass" maxHttpHeaderSize="8192" maxSpareThreads="75"  
maxThreads="150" minSpareThreads="25" port="9643" scheme="https"  
secure="true" sslProtocol="TLS"/>
```

The <Connector> nodes are children of the <Service> node.

One easy way to add a <Connector> node is to copy it from your Rhythmyx server to the remote Publisher installation.

The value of the keystoreFile attribute specifies the path to the keystore file used by the Rhythmyx Publisher. The value of the port attribute specifies the SSL port used by the Rhythmyx Publisher.

You must restart the Rhythmyx Publisher for the SSL configuration to take effect.

To confirm that you have configured SSL correctly, start a browser and enter the following URL into the address field:

```
https://RhythmyxServer:9443/RxServices
```

where

RhythmyxServer is the name of the host where you installed the Rhythmyx Publisher; and

9443 is the Rhythmyx SSL port.

If you have configured SSL correctly, you will be directed to the Apache SOAP page for the server.

Configuring a Publisher Registration for SSL

To configure a Publisher registration to use SSL, add the Publisher parameter `sslport` to the registration. The value of the parameter is the SSL port of the remote Publisher you want to use to publish. The following graphic illustrates the default FastForward Publisher configured with the `sslport` parameter:

Publisher(id): Localhost Publisher Default Port(301)		Edit Publisher
*Publisher Name	Localhost Publisher Default Port	
Description	Connects to a publisher running on default pc	
*IP Address	10.10.10.100	
Port	9992	
Status	Active <input type="button" value="v"/>	
CMS User Name	rxpublisher	
CMS Password	xoxoxox	
Publisher User Name		
Publisher Password		
<input type="button" value="Save"/> <input type="button" value="Cancel"/>		
Configuration Parameters		Add User Param
Name	Value	Description
<input checked="" type="checkbox"/> database	com.percussion.publisher.client.PSDatabasePublisherHandler	database publisher handler
<input checked="" type="checkbox"/> portal	com.percussion.portal.PSPortalPublisherPlugin	The plugin to publish to a portal site
<input checked="" type="checkbox"/> sslport	9643	
<input checked="" type="checkbox"/> filesystem	com.percussion.publisher.client.PSFilePublisherHandler	component used for filesystem publishing
<input checked="" type="checkbox"/> ftp	com.percussion.publisher.client.PSFtpPublisherHandler	component used for FTP publishing
<input checked="" type="checkbox"/> statusurl	/Rhythmyx/sys_pubSupport/pubstatus.xml	Receives XML log from publisher and updates database

Figure 102: Rhythmyx Publisher with `sslport` configuration parameter

Implementing a Self-signed Certificate

To implement SSL, you can use self-signed certificates, rather than certificates from a recognized certificate authority. This option is less expensive, but your user's browsers will not recognize the self-signed certificates and they will display prompts to trust the certificate.

Use the keytool included with the Rhythmyx JRE to create and manage the certificates.

To generate a self-signed certificate on the Rhythmyx server:

- 1 Create a certificate file (.csr file) to store your certificate. To create the .csr file, start a simple text editor, such as Notepad or vi, and save an empty file. Use the name of your Rhythmyx system alias. For example, if you name your Rhythmyx server "Rhythmyx", you would save your file with the name Rhythmyx.csr. Save this file to the directory `<Rhythmyxroot>/JRE/bin`.
- 2 Open a terminal window and change directories to `<Rhythmyxroot>/JRE/bin`.
- 3 Create a public/private key pair:

```
keytool -genkey -alias <keystoreentryalias> -keyalg RSA -dname  
"CN=<rhythmyxhostname>,OU=<organizationalunit>,O=<organization>,L=<locat  
ion>,S=<state>,C=<country>" -keypass <keypassword> -storepass  
<storepassword> -keystore <keystorefilename>
```

Where:

- `<keystoreentryalias>` is the keystore entry alias;
- `<rhythmyxhostname>` is the name of the machine where the Rhythmyx server resides;
- `<organizationalunit>` is the name of the organization unit for which you are issuing the certificate (typically the department responsible for operating the Rhythmyx server);
- `<organization>` is the organization for which you are issuing the certificate (typically your company name);
- `<location>` is the name of your location, typically the town or city
- `<state>` is the name of the state or province;
- `<country>` is the name of your country;
- `<keypassword>` is the password for the key pair;
- `<storepassword>` is the password for the keystore file;
- `<keystorefilename>` is the name of the keystore file; you can give this file any name, but it must end in `.keystore`. You should also include the path to the Rhythmyx JRE when defining the keystore. If you do not specify the location, the keystore is created in the default location, which is the users home directory.

For example:

```
keytool -genkey -alias Rhythmyx -keyalg RSA -dname  
"CN=rhythmyxhostname,OU=Development,O=Percussion,L=Stoneham,S=Massachuse  
tts,C=US" -keypass mypass -storepass mypass -keystore  
<Rhythmyxroot>/JRE/bin/Rhythmyx.keystore
```

NOTE: The keystore file should be stored in the directory `<Rhythmyxroot>/AppServer/server/rx/conf` (or a subdirectory of that directory). You can move the keystore files to that location at any time during this process. To simplify the self-certification process, you may want to wait to move the keystore until you are ready to enable SSL on the Rhythmyx server and remote Publisher.

4 Self-certify the key pair:

```
keytool -selfcert -alias <keystoreentryalias> -keypass <keypassword> -storepass <storepassword> -keystore <keystorefilename>
```

Where:

- `<keystoreentryalias>` is the keystore entry alias;
- `<keypassword>` is the password for the key pair;
- `<storepassword>` is the password for the keystore file;
- `<keystorefilename>` is the name of the keystore file (including the path if you did not create the keystore file in the default location).

For example:

```
keytool -selfcert -alias Rhythmyx -keypass mypass -storepass mypass -keystore <Rhythmyxroot>/JRE/bin/Rhythmyx.keystore
```

5 Export the certificate file from the newly created key pair to the certification file (.csr):

```
keytool -export -alias <keystoreentryalias> -keypass <keypassword> -storepass <storepassword> -keystore <keystorefilename> -file <certificatefile>
```

Where:

- `<keystoreentryalias>` is the keystore entry alias;
- `<keypassword>` is the password for the key pair;
- `<storepassword>` is the password for the keystore file;
- `<keystorefilename>` is the name of the keystore file (including the path if you did not create the keystore file in the default location).
- `<certificatefile>` is the name of the certificate file; you can give this file any name, but to make it easy to recognize, it is strongly recommended that you use “.csr” as the extension.

For example:

```
keytool -export -alias Rhythmyx -keypass mypass -storepass mypass -keystore Rhythmyx.keystore -file <Rhythmyxroot>/JRE/bin/Rhythmyx.csr
```

6 Repeat Steps 2 through 5 on the remote Rhythmyx Publisher. Give the keystore and certificate files different names than you used for the Rhythmyx server.

7 Copy the Rhythmyx server certificate file (e.g, Rhythmyx.csr) to the Rhythmyx Publisher; copy the Rhythmyx Publisher certificate file to the Rhythmyx server.

8 Import the Publisher certificate into the Rhythmyx server's cacerts file:

```
keytool -import -noprompt -trustcacerts -alias <keystoreentryalias> -storepass changeit -file <certificatefile> -keystore <cacertpath>
```

Where

- <keystoreentryalias> is the keystore entry alias;
- <certificatefile> is the name of the certificate file;
- <cacertpath> is the path to the cacert file into which you want to import the certificate.

Note that the password for the cacert file is *changeit*. You cannot use a different value for this parameter or the command will fail.

For example, the following command would import a key pair with the alias RxPub, stored in a certificate file named RxPub.csr, into the Rhythmyx server's cacerts file:

```
keytool -import -noprompt -trustcacerts -alias Rxpub -storepass changeit  
-file RxPub.csr -keystore C:\Rhythmyx\Publisher\JRE\lib\security\cacerts
```

- 9** Import the Rhythmyx server's keypair into the Rhythmyx Publisher using the command in Step 8.
- 10** Configure the *Rhythmyx Server to use SSL* (see "Enabling SSL on the Rhythmyx Server" on page 101) and restart. Configure the *Publisher to use SSL* (see "Enabling SSL on the Remote Rhythmyx Publisher" on page 102) and restart. (NOTE: The keystore files should be stored in the directory <Rhythmyxroot>/AppServer/server/rx/conf before enabling SSL on either server.

Debugging Your SSL Publishing Implementation

If your SSL publishing configuration is not working, determine whether the Publisher is retrieving content from the correct URL. The publisher log should specify a URL that uses "https" instead of "http", a DNS name instead of a simple host name, and the correct SSL port for the Rhythmyx Server (9443 by default). For example:

```
Getting content item from URL :  
https://rhythmyxserver.percussion.local:9443/Rhythmyx/assembler/render?s  
ys_revision=1&sys_siteid=301&sys_template=506&sys_itemfilter=public&  
sys_contentid=383&sys_folderid=387&sys_context=301&sys_publish=publish
```

For additional information about debugging SSL, see the following URL:

<http://java.sun.com/products/jsse/install.html>

Setting Up Scheduled Publishing in the Production Environment

In a production environment, publishing is set up to run automatically on a schedule. Setting up scheduled publishing involves two phases:

- Modifying the batch file or shell script to launch the publisher. Rhythmyx supplies the file `<Rhythmyx root>\AppServer\bin\ScheduledPublication.bat` (or `ScheduledPublication.sh`).
The batch file calls the Publisher Launcher Java program that launches the Rhythmyx Publisher, and passes the Publisher Launcher the parameters specifying the Edition to run, the Rhythmyx server and Rhythmyx port, and the user name and password to use to log in to Rhythmyx to launch the Edition.
- Setting up the automated schedule in a scheduling application on the production Web server to run the shell script or batch file.

Note that the script must be run from the machine where the Publisher resides. Therefore, if you installed a remote Publisher on your production Web server, you must run the script from that machine, not from the Rhythmyx server.

Setting Up Scheduled Publishing on a Windows Production Server

For the purposes of this exercise, we will assume that we are using a remote publisher that is publishing the Express Investments Full Edition (ID=324) via SSL. The batch file will use the `rxpublisher` user to log in to Rhythmyx.

Creating a Windows Scheduler Job to Run the Publishing Batch File

For the purposes of this exercise, we will assume that we want to publish the Express Investments Full Edition every morning at 12:30 AM.

To create the Windows Scheduler job:

- 1 Access the Scheduled Tasks dialog. See the documentation for your version of the Windows operating system for instructions about accessing this dialog.
- 2 Double-click on Add Scheduled Task.
- 3 Windows launches the Scheduled Task Wizard. The first dialog of the wizard is an introduction dialog. Click the **[Next]** button.
Windows displays the Program dialog.
- 4 Click the **[Browse]** button, and browse to `C:\Rhythmyx\AppServer\bin`. Select the `XIFull.bat` file and click the **[OK]** button.
Windows displays the name and frequency dialog.

- 5 The name defaults to *XIFull*. Do not change this value. Click in the **Daily** radio button. Click the **[Next]** button.

Windows displays the Time and Day to start dialog.

- 6 Change the value in the **Start Time** field to *12:30 AM*. Leave the **Every Day** radio button checked. The value in the **Start Date** field defaults to the current date. Change to a different date if you want to delay automated publishing. Click the **[Next]** button.

Windows displays the User Name and Password dialog.

- 7 The value in the **Enter User Name** field defaults to the currently logged in user. If you want to use a different Windows user to launch the task, enter that user's name in this field. (NOTE: This would NOT be *rxpublisher*, which is a Rhythmyx user. The user must be a Windows user that can be authenticated on the Web application server machine.) Enter and confirm the password for the user you specified. Click the **[Next]** button.

- 8 Windows displays the Finish dialog. Click the **[Finish]** button.

The new scheduled job will be added to the list of scheduled tasks on the machine.

Setting Up Scheduled Publishing on a Unix Production Server

For the purposes of this exercise, we will assume that we are using a remote publisher that is publishing the Express Investments Full Edition (ID=324) via SSL. The shell script will use the *rxpublisher* user to log in to Rhythmyx.

Creating the Shell Script for Scheduled Publishing

To modify the shell script for scheduled publishing:

- 1 On the server Quail, change to `../Rhythmyx/AppServer/bin` directory and find `ScheduledPublication.sh`. The file should resemble the following code:

```
../../../../JRE/bin/java -cp ../server/rx/deploy/RxServices.war/WEB-INF/lib/rxpublisher.jar:../server/rx/deploy/RxServices.war/WEB-INF/lib/rxmisctools.jar
com.percussion.publisher.runner.PSRemotePublisher localhost 12032 301
```

The following values are parameters for the shell script: `localhost`, `9880`, and `301`. The following table describes all of the parameters available for the shell script:

Parameter Order	Parameter Name	Description	Default Value	Update Value To
1	server	Name or IP address of Rhythmyx server. (required) Included in sample batch file by default.	localhost	Sparrow
2	port	Rhythmyx server listening port. (required) Included in sample batch file by default.	9580	9992

3	editionid	ID of the Edition to Publish. (Required) Included in sample batch file by default.	301	324
4	cmsuserid	CMS user ID (optional). Not included in sample batch file by default	<null>	rxpublisher
5	password	Password for user specified in the cmsuserid parameter. (optional). Not included in sample batch file by default.	<null>	demo
6	useSSL	Specifies whether to use SSL when communicating with the Rhythmyx server during Publishing. (optional) Options are "yes" and "no". If no value is provided for this parameter, the default value of "no" is assumed. Not included in the sample batch file by default.	<null>	yes

- 2 Save a copy of ScheduledPublication.sh with the name XIFull.sh.

Use a simple text editor, such as vi, to update the parameters of the file with the values listed in the Update Value To column in the table above. When you finish, XIFull.sh should resemble the following code:

```
The actual code should resemble the following:
../../../../JRE/bin/java -cp ../server/rx/deploy/RxServices.war/WEB-INF/lib/rxpublisher.jar:../server/rx/deploy/RxServices.war/WEB-INF/lib/rxmisc tools.jar:
com.percussion.publisher.runner.PSRemotePublisher localhost 12032
301 Sparrow 9992 324 rxpublisher demo yes
```

- 3 Save XIFull.sh..

Creating the Publishing Schedule in cron

For the purposes of this exercise, we will assume that we want to publish the Express Investments Full Edition every morning at 12:30 AM.

To create a schedule for cron to run the shell script:

- 1 On the server Quail, change to the ../Rhythmyx/AppServer/bin directory.
- 2 Start vi (or another simple text editor). Enter the following code:

```
30 0 1-31 1-12 0-6 /usr/home/Rhythmyx/AppServer/bin/XIFull.sh
```

NOTE: All code should be on one line.

- 3 Save the file as XIFull.cron and close the simple text editor.
- 4 Enter `crontab XIFull.cron`.

CHAPTER 7

Quality Assurance Testing the Production Environment

Once you have completed the installation and deployment of your production server and implemented publishing, you should perform a quality assurance test on the production implementation to confirm that it is performing as you expect. Percussion Software, Inc., recommends the following procedures:

- Test Content Editors and Content Assembly
 - Create a new Content Item with each Content Editor
 - Preview each Content Item using each available Variant. If you use multiple global templates, preview each Content Item in each Variant with each available global template.
 - Add related content to each Slot available on each Content Item.
 - Preview each Content Item again with each available Variant. If you use multiple global templates, preview each Content Item in each Variant with each available global template.
 - Pass one Content Item through all States in each Workflow. Confirm that each Content Editor is using the correct Workflow.
 - Repeat all tests for each Site in your implementation.
- Test Navigation Implementation
 - Add a new Folder to each Site. Move a Content Item in and assign it as a landing page. Preview Content Items from each additional Folder in the Site to ensure that the navigation is being built correctly.
 - Repeat the test for each Site in your implementation.
- Test publishing
 - If your production Web server is already in use, implement an alternative site to test publishing.
 - Publish content to the site to confirm that everything is publishing correctly and that Navigation is being assembled correctly in the published output.

CHAPTER 8

Going Live

Once you have completed QA of your system and confirmed that it is operating as expected, you are ready to take the final steps to going live:

- Adding content to the system;
- Training users on Rhythmyx.

Adding Content to Your Production Content Management System

Navigation Content Items may have been deployed into the production environment with your Folder structure, but adding the rest of your content is a manual process. Users will need to review the pages in your current Web site and add the content of those pages to the system as Content Items. They will need training to help them learn the difference between content that Rhythmyx manages and other portions of the page that will be derived from local or global templates in the published pages.

This is a prime opportunity to introduce Rhythmyx to an initial set of users. Consider asking some of your more technically savvy users to participate in this process. They will grasp the concepts more quickly and can help "evangelize" the product to other users. In addition, they are more likely to be tolerant of any technical issues that arise during the process of adding the content.

Text content must be added to the system manually (often using copy and paste functionality), but consider implementing WebDAV to simplify mass upload of graphics and other binary Content Items. For details about using WebDAV, see the document *Implementing WebDAV in Rhythmyx*. Note, however, that once this content is added to Rhythmyx, users will still have to manually add it to text Content Items to assemble the desired output pages. Users will also have to create any other Active Assembly Relationships between text Content Items after adding them to the system.

Training Users on Rhythmyx

Before putting your system into production, you should train your users on Rhythmyx. At the very least, distribute the *Rhythmyx Concepts Guide* to them and emphasize the sections most relevant to the tasks they will be performing. Ideally, however, you should develop and plan a training class that outlines in rough terms how Rhythmyx works, the elements of your implementation, and common tasks in Content Explorer.

Putting Rhythmyx into Production

Once you have added your content to the system and trained your users, you are ready to put Rhythmyx into production to maintain your Web site. Pick a date and launch your first production publishing run.

Congratulations! Welcome to Content Management with Rhythmyx!



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