
Setting Up the Rhythmyx Production Environment

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Contents

Introduction	3
Implementing a Tiered Rhythmyx Environment	4
Process Overview	5
Creating Multi-Server Manager Archives in the Development Environment	7
Registering Your Development Server	8
Building Multiple Deployment Archives for a Customized FastForward Implementation	10
Simple Example of Archive Creation	10
Preparing the Production Server	19
Installing a Production Server in Windows	20
Installing a Production Server in Solaris/Oracle	39
Installing Implementation Multi-server Manager Archives on the Production Server	51
Simple Example of Archive Installation	52
Implementing Security in the Production Environment	59
Defining Security Providers	60
Implementing a Directory Connection Security Provider	61
Implementing a Windows NT Security Provider	76
Implementing a Web Server Security Provider	77
Adding Users to Rhythmyx Roles	78
Updating Default Security Settings	83
Changing the Default Server Access Control List	83
Replacing the Default Users with New Users	84
Setting Up Publishing in the Production Environment	85
Publishing to a Mapped or Mounted Drive	86
Publishing to a Remote Web Server Using FTP	89
Publishing to a Remote Rhythmyx Publisher	90
Installing a Remote Publisher in a Windows Environment	90
Installing a Remote Publisher in a Solaris Environment	99
Registering and Configuring the Remote Publisher	104
Implementing SSL to Secure Publishing (Optional Procedure)	106
Updating the Express Investments Site Registration	112
Setting Up Scheduled Publishing in the Production Environment	114
Setting Up Scheduled Publishing on a Windows Production Server	114
Setting Up Scheduled Publishing on a Unix Production Server	116

Quality Assurance Testing the Production Environment	119
---	------------

Going Live	121
-------------------	------------

Adding Content to Your Production Content Management System	122
Training Users on Rhythmyx.....	123
Putting Rhythmyx into Production	124

Index	125
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CHAPTER 1

Introduction

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.

Before performing the tasks detailed in this document, you should have read and completed the tasks detailed in the following documents:

- *Rhythmyx Concepts Guide*
- *Getting Started with Rhythmyx FastForward for Web Content Management*
- *Configuring Rhythmyx FastForward for Web Content Management*

If your implementation required customization, you should also have completed the implementation tasks described in *Customizing Rhythmyx FastForward for Web Content Management* called for by the implementation plan you developed for customization.

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.
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.
- 4 Installing the MSM deployment archives to the production environment.
- 5 Adding content to the production environment and implementing publishing.
- 6 Quality Assurance testing the production environment.
- 7 Going live.

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 descriptors.

FF1_Workflows

FF2_ContentTypes

FF3_SlotsAndVariants

FF4_ContentLists

FF5_Sites

FF6_Communities

FF7_ImplementationElements

Note that an additional descriptor, FastForwardMSM, is also currently included. This descriptor has been deprecated and should not be used.

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*.

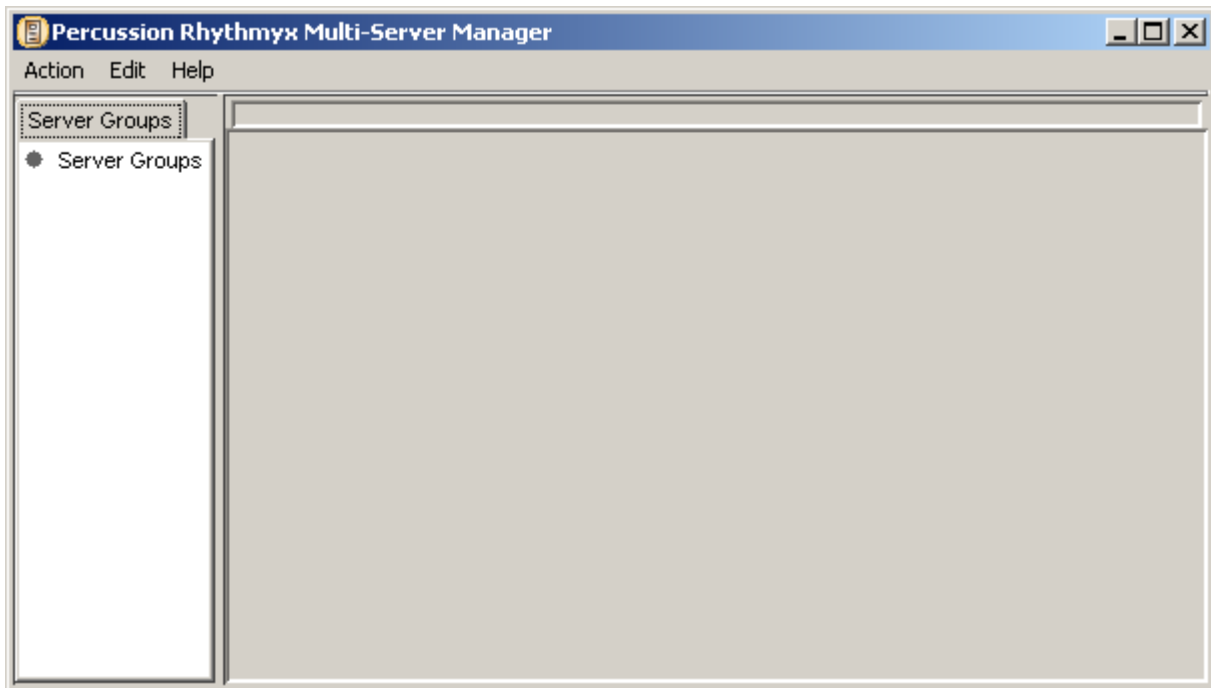


Figure 1: Multi-server Manager when first accessed.

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

Rhythmyx displays the Edit/New Rhythmyx Server Registration dialog.

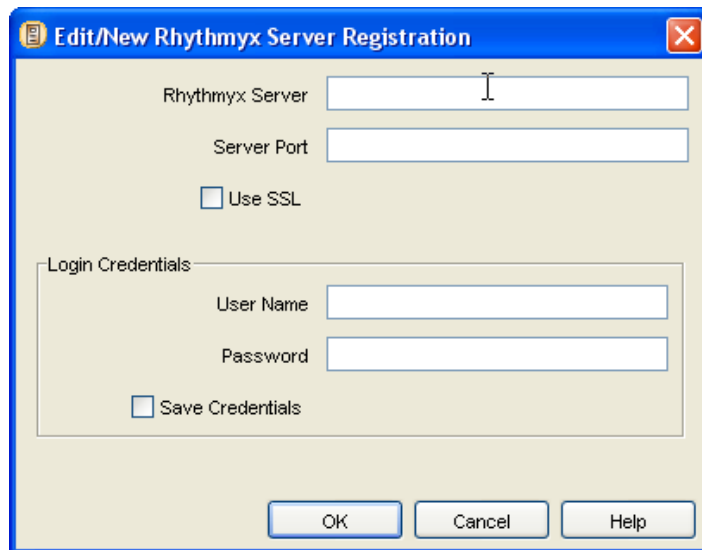


Figure 2: Edit/New Rhythmyx Server Registration Dialog

- 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.

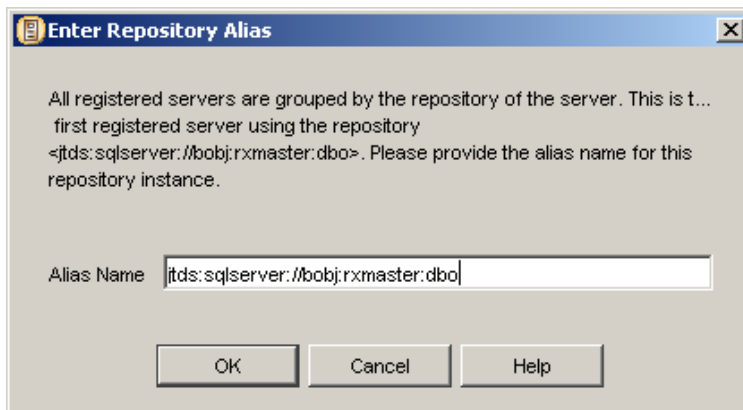


Figure 3: Multi-server Manager Server Alias Dialog

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 Job Listing Content Type described in *Customizing FastForward for Web Content Management*. Creation of archives to deploy other system elements uses an identical process, but is 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 Workflow 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.

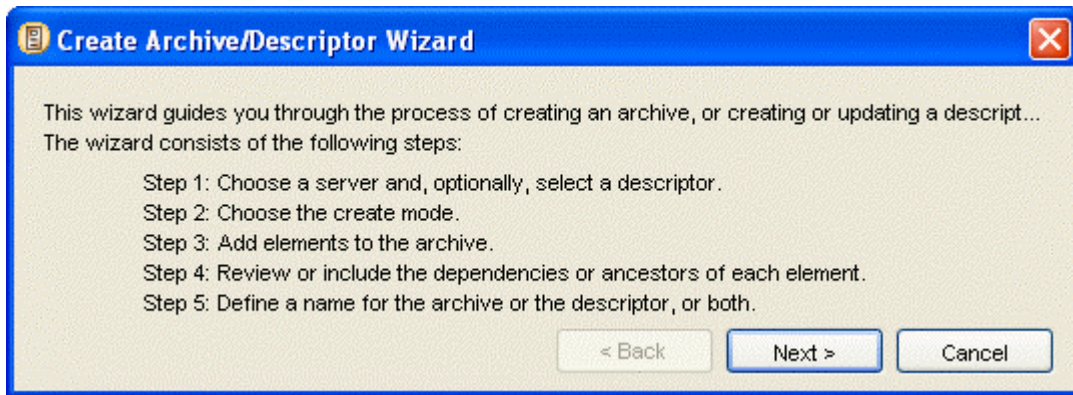


Figure 4: Create Archive/Descriptor Wizard, first screen

- 2 Read the text on the opening dialog of the wizard and click the [**N**ext] 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 *FF2_ContentTypes*.

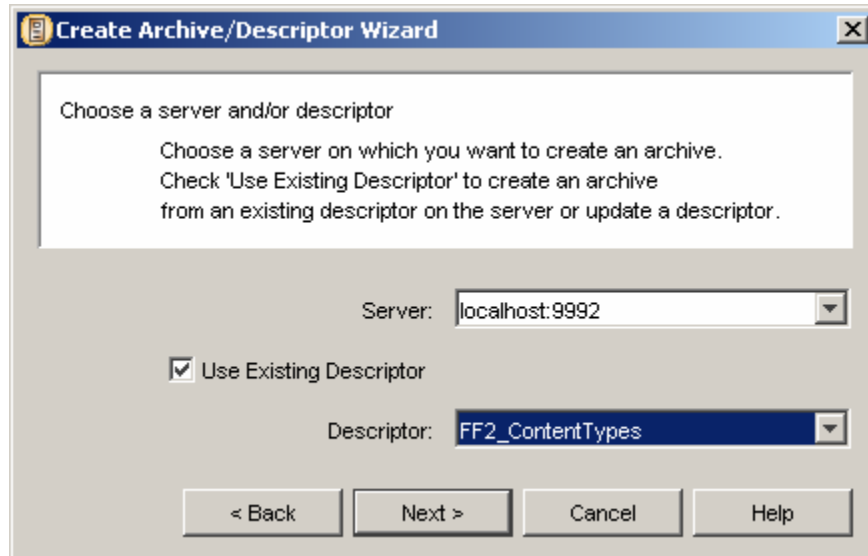


Figure 5: Choose Server and Descriptor Dialog showing server as *localhost:9992* and *FF2_ContentTypes* as the Descriptor

- 5 Click the [**N**ext] button.

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

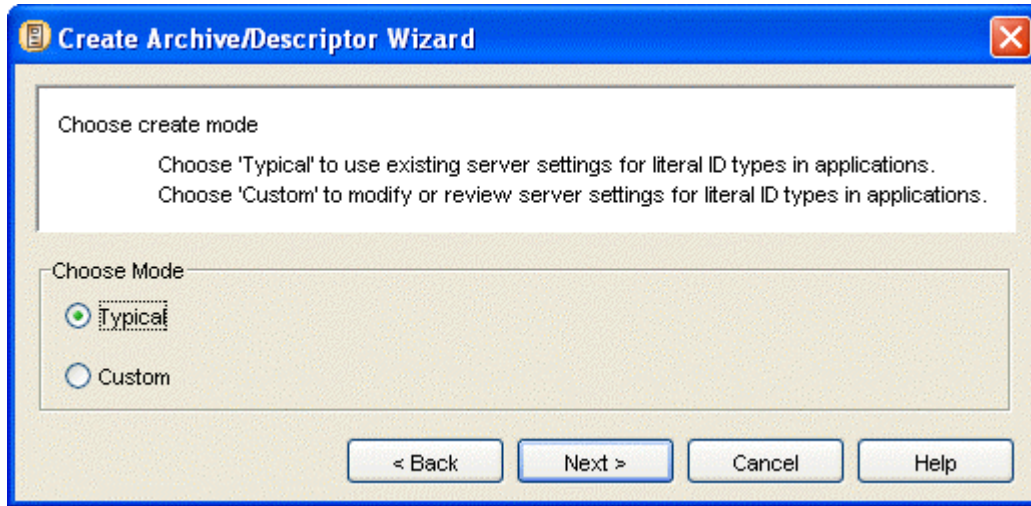


Figure 6: Create Archive/Descriptor Wizard, Choose Create Mode

- 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 FF2_ContentTypes descriptor already lists the standard FastForward Content Types, such as Generic, Brief, Press Release and Navon, in the Elements to Package field. We must add the Job Listing Content Type to that field to deploy it as well. To add the Job Listing Content Type:

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

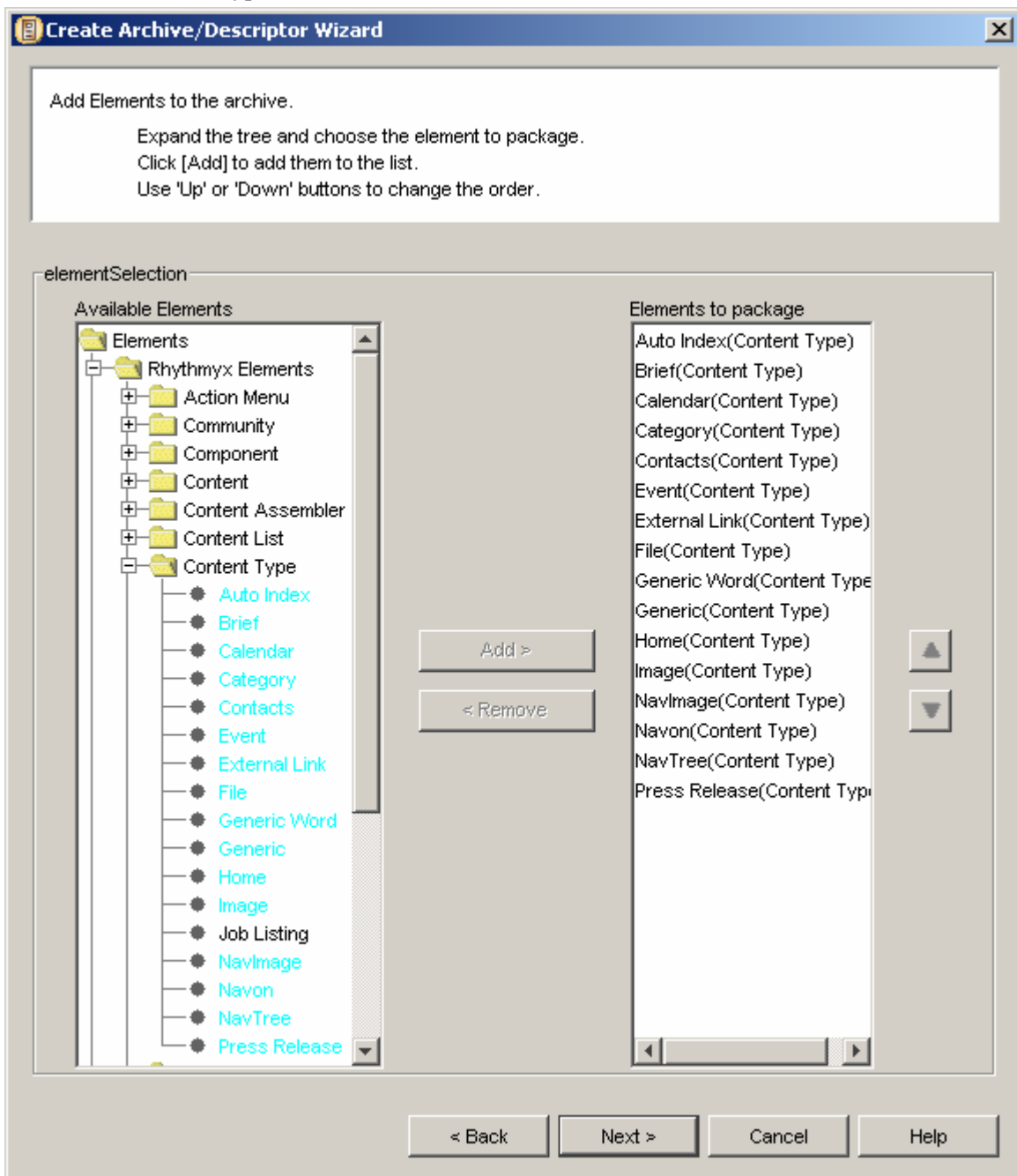


Figure 7: Add Elements to Archive dialog showing list of available Content Types. Note that the Job Listing Content Type has not yet been added to the list of elements to archive.

- 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 Workflows you selected to the Elements to package list.

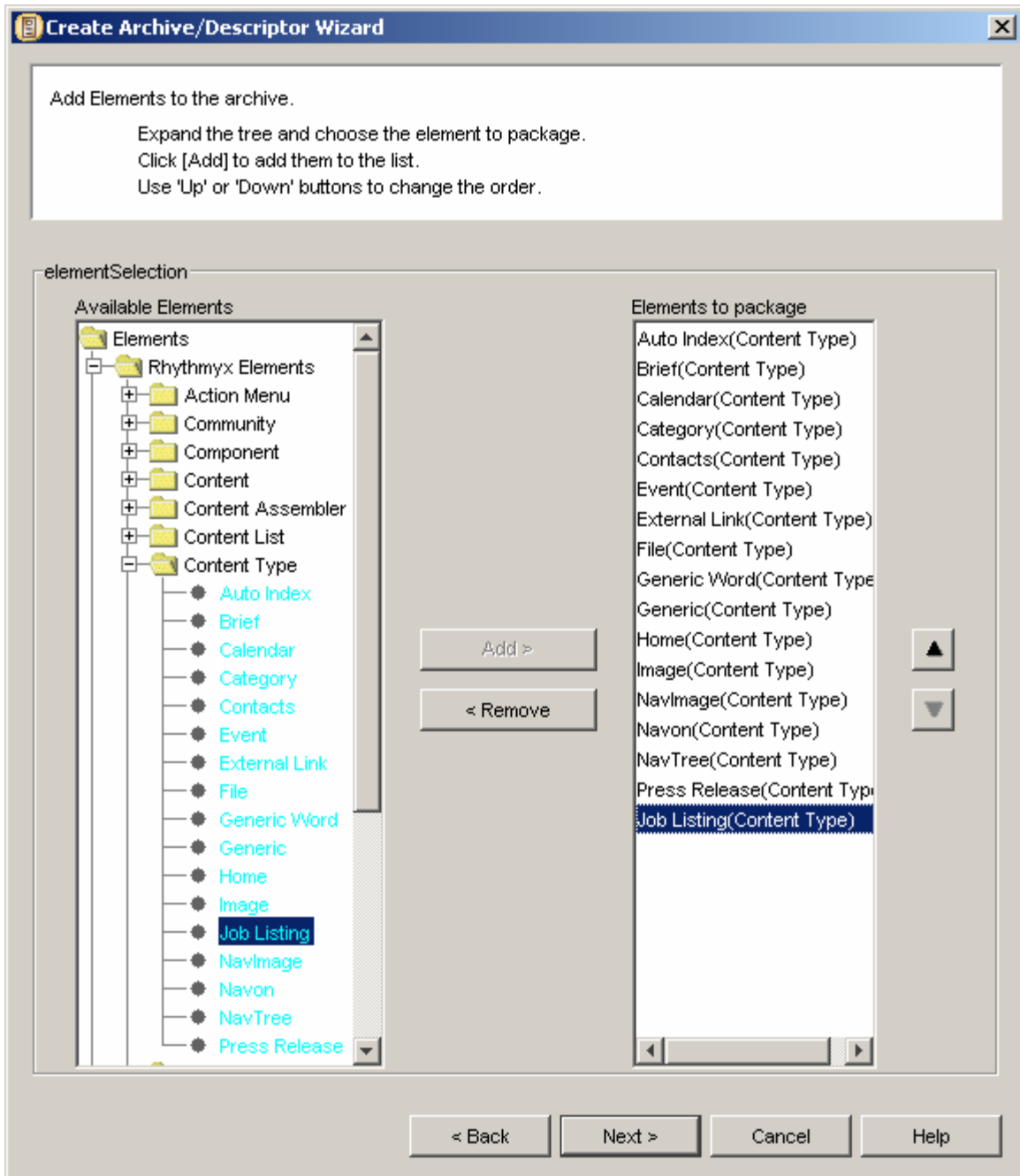


Figure 8: Add Elements to Archive dialog showing Job Listing Content Type added to the list of elements to archive.

7 Click the [Next] button.

Multi-Server Manager displays the Identify ID Types dialog.

- 8 This dialog lists all Rhythmyx identifiers for which no identifier type has been defined. You need to specify the type of each identifier so Multi-Server Manager can convert correctly when installing the Archive. In this case, only one unknown identifier exists, the value *319* in the Job Listings resource of the *XI_JobListing_ce* application. The descriptive text displayed when we select this value tells us that it is the value of the parameter *sys_contenttypeid*. Therefore, we will select *Content Type Definition* as the Type for this ID.

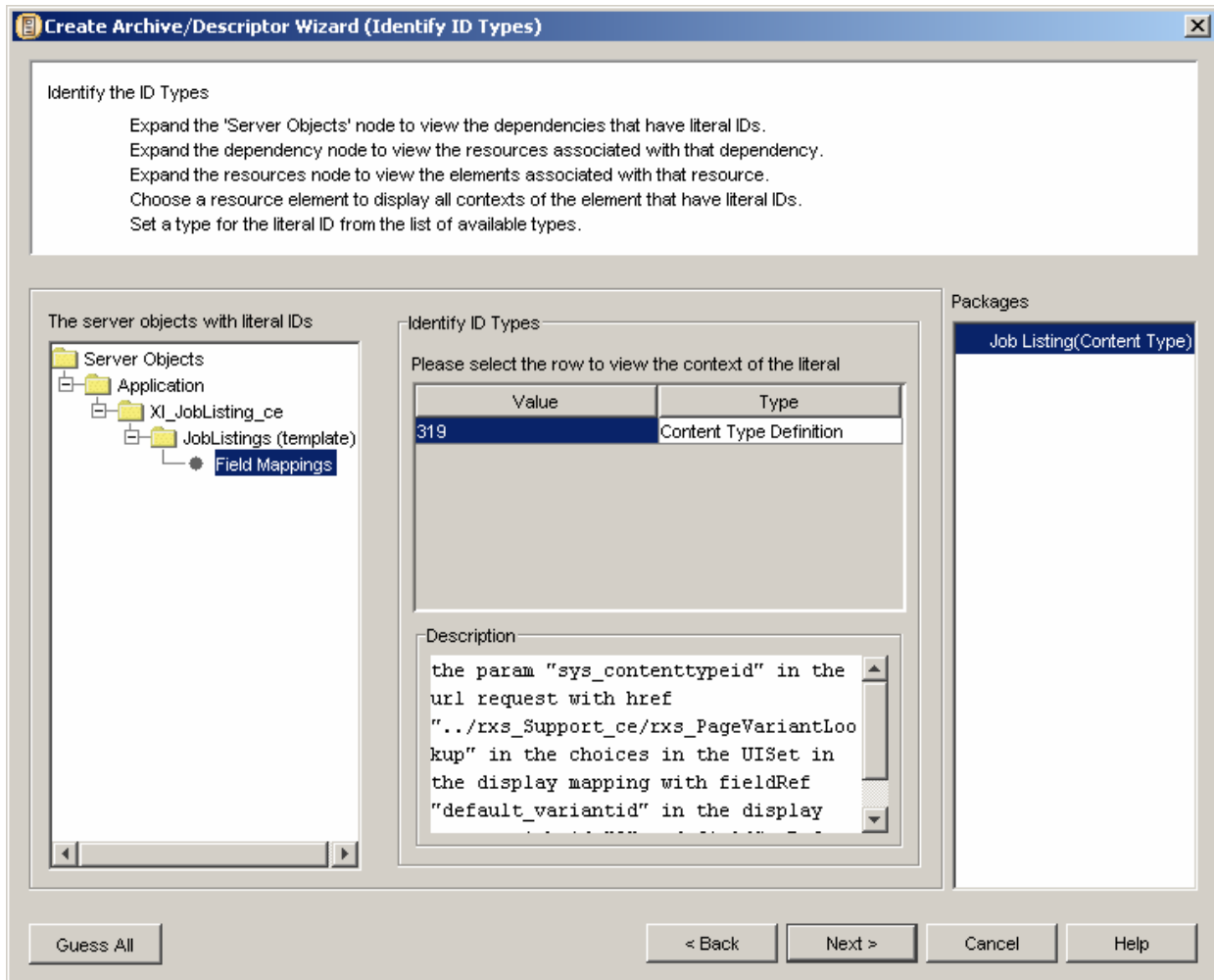


Figure 9: Identify Types dialog with the identifier 319 specified as Content Type Definition

Typically, the description of the identifier provides the information you need to define the type of the identifier. For example, if the description tells you that the identifier is associated with the parameter *sys_variantid*, it is clearly a Variant Definition.

- 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 Standard Workflow
- The System Definition (the Content Editor System Definition XML file)
- The XI_Departments Keyword
- The XI_CT_JOBLISTINGS table schema.

- 10 We will include the XI_Departments Keyword and the XI_CT_JOBLISTINGS table schema. 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.

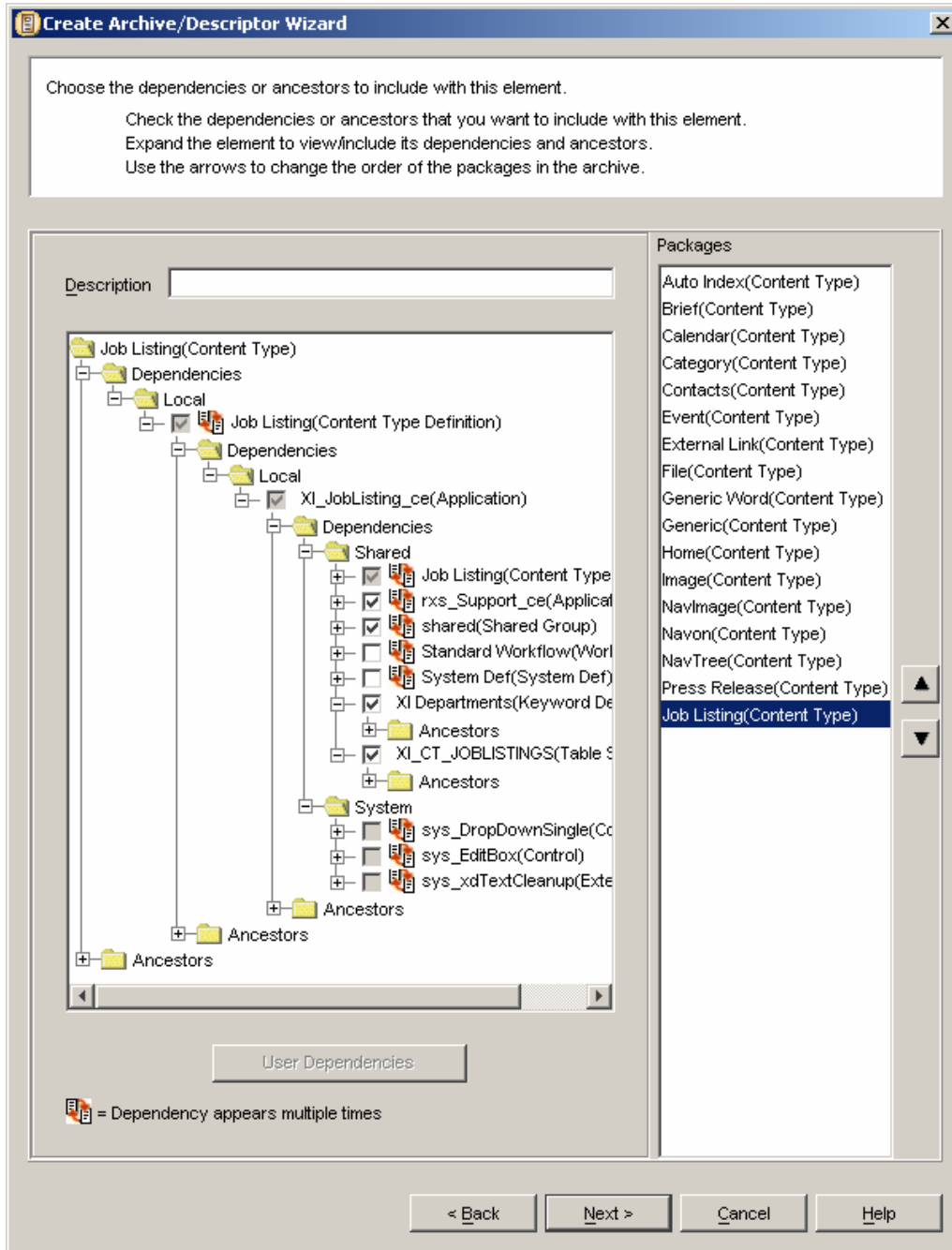


Figure 10: Choose Dependencies to Include dialog showing recommended choices for the Job Listing Content Type package

- 11 Repeat step 10 for each Content Type 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. Includes any table schemas, shared definitions, and keywords required for your Content Editors. 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 FF2_ContentTypes descriptor. You can change this value if you wish.
- 14 In the **Save to archive** field, enter *ExpressInvestmentsContentTypeArchive*. 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 *XIContentTypeDescriptor* in the **Descriptor name** field to create a new descriptor.

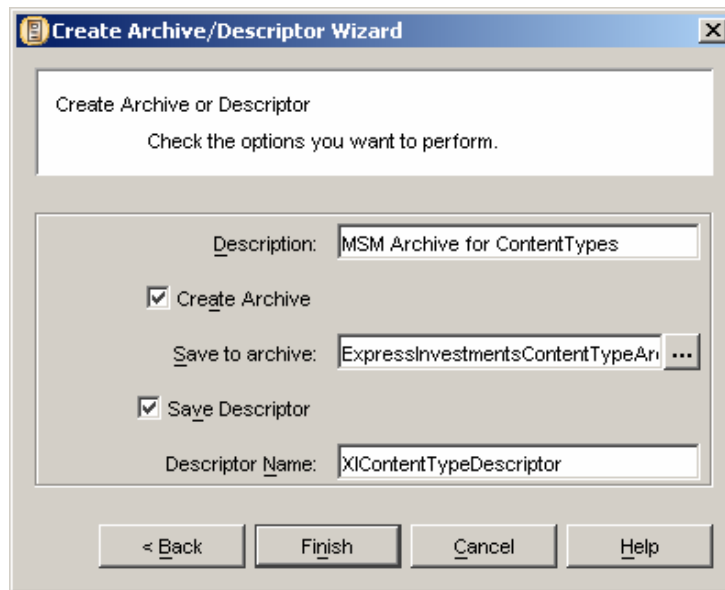


Figure 11: Create Archive and Descriptor dialog with data for *XIContentTypes* archive and descriptor

- 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 *ExpressInvestmentsContentTypesArchive.pda*.

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 (name of technical spec document?).

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.
- The default Tomcat Web application server is used as the servlet container for the Publisher, and Tomcat is using the default port for Rhythmyx installation.

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.

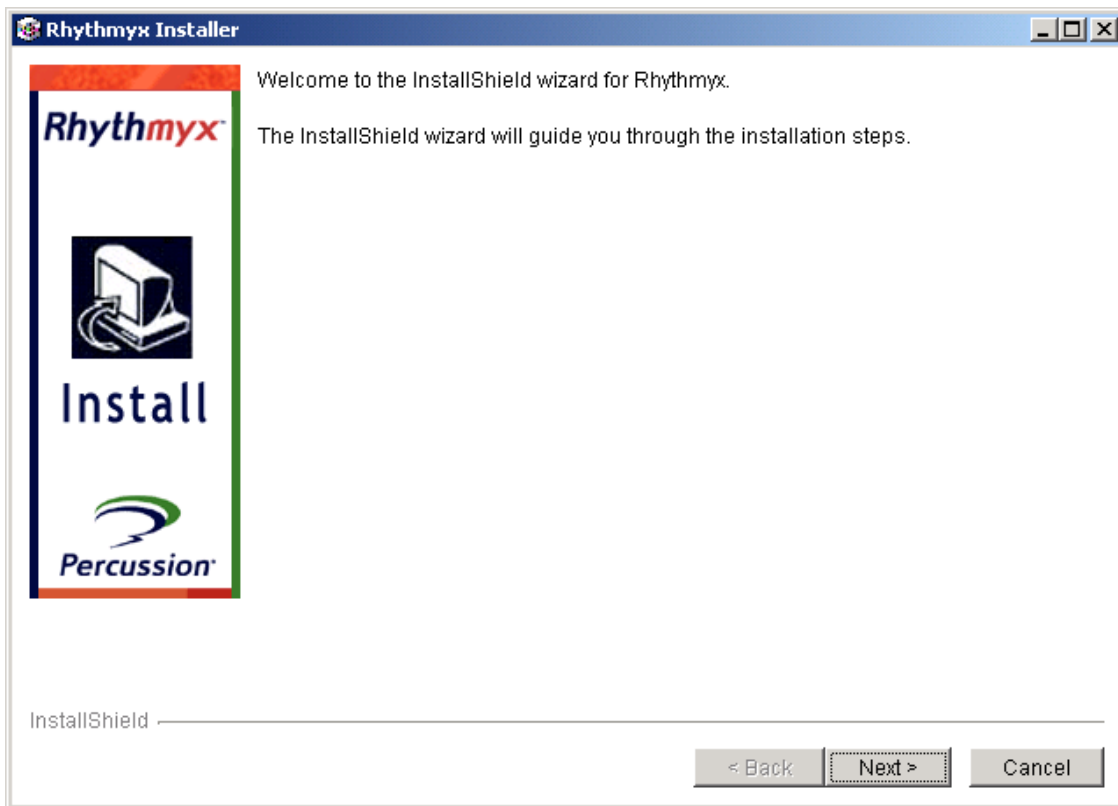


Figure 12: Welcome screen

- 3 Click the [Next >>] button.

The installation wizard displays the license agreement dialog.

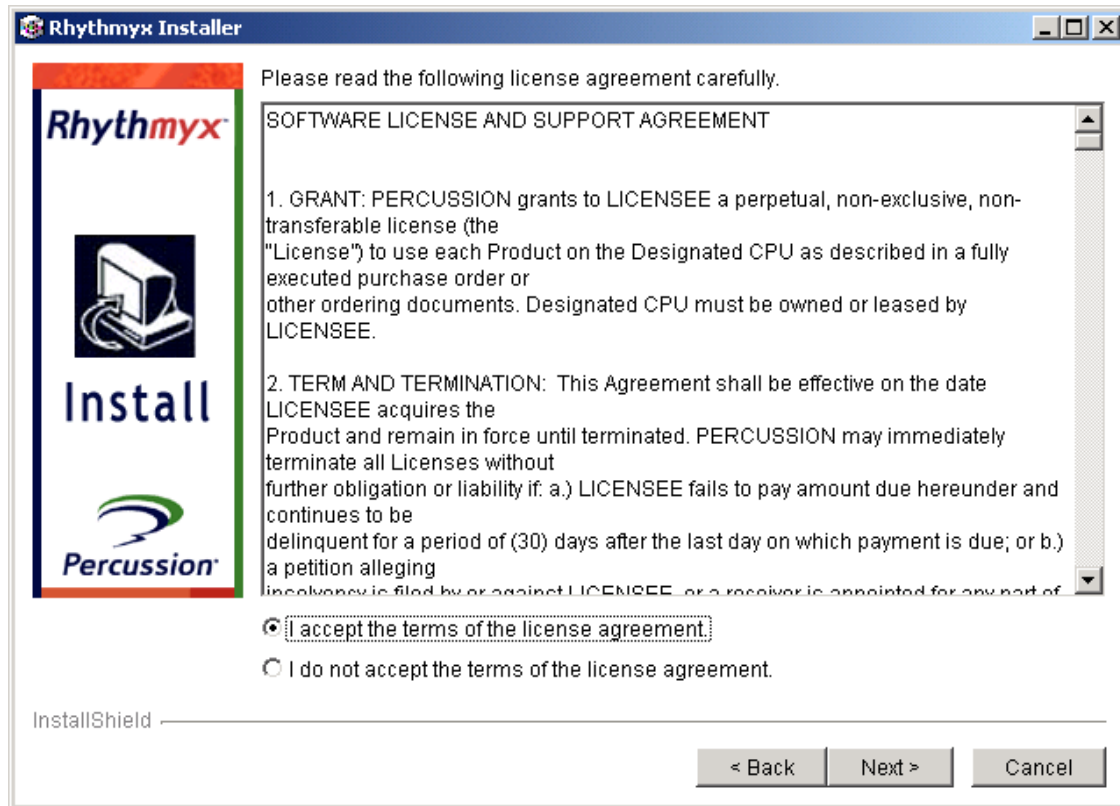


Figure 13: License agreement

- 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.

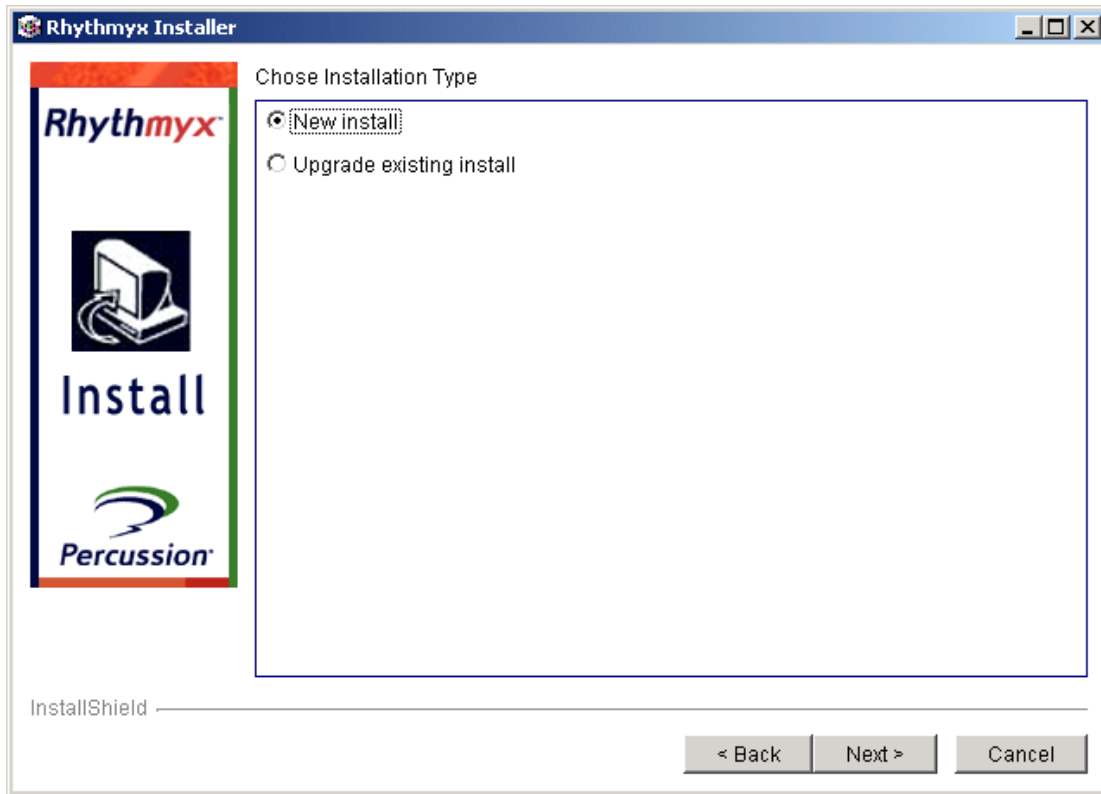


Figure 14: Installation Type dialog

- 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.

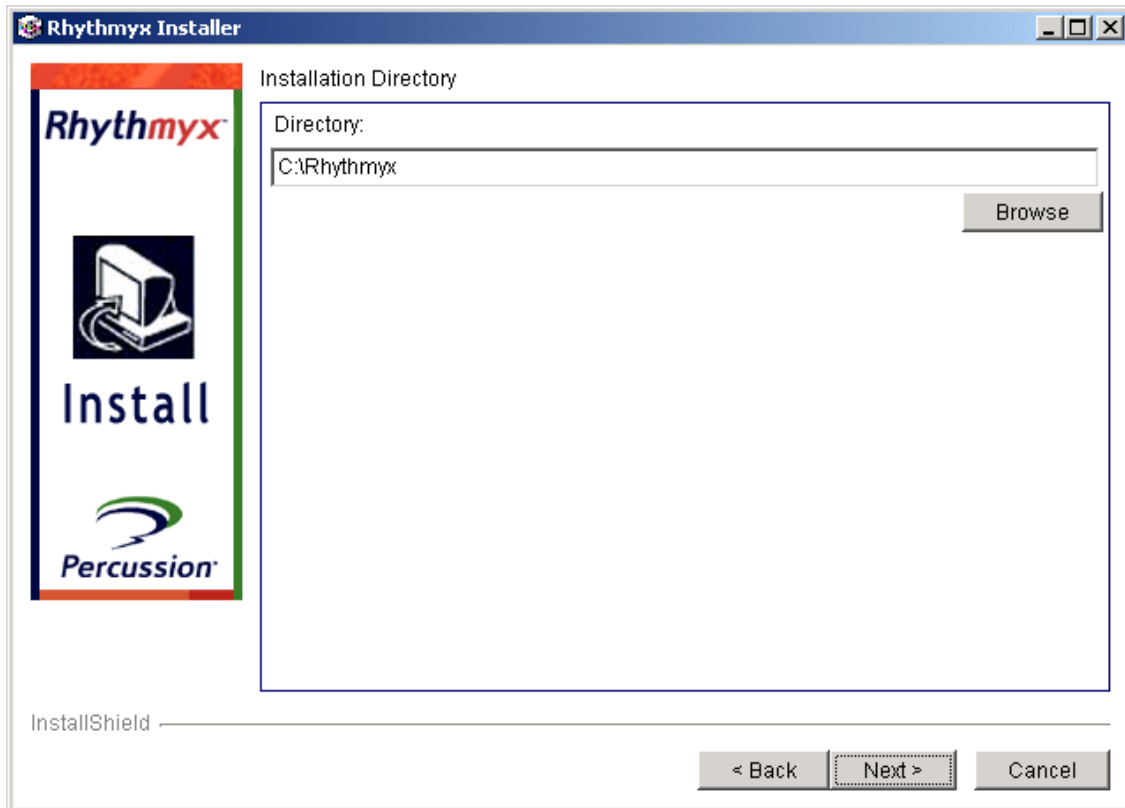


Figure 15: Installation Directory screen

- 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.

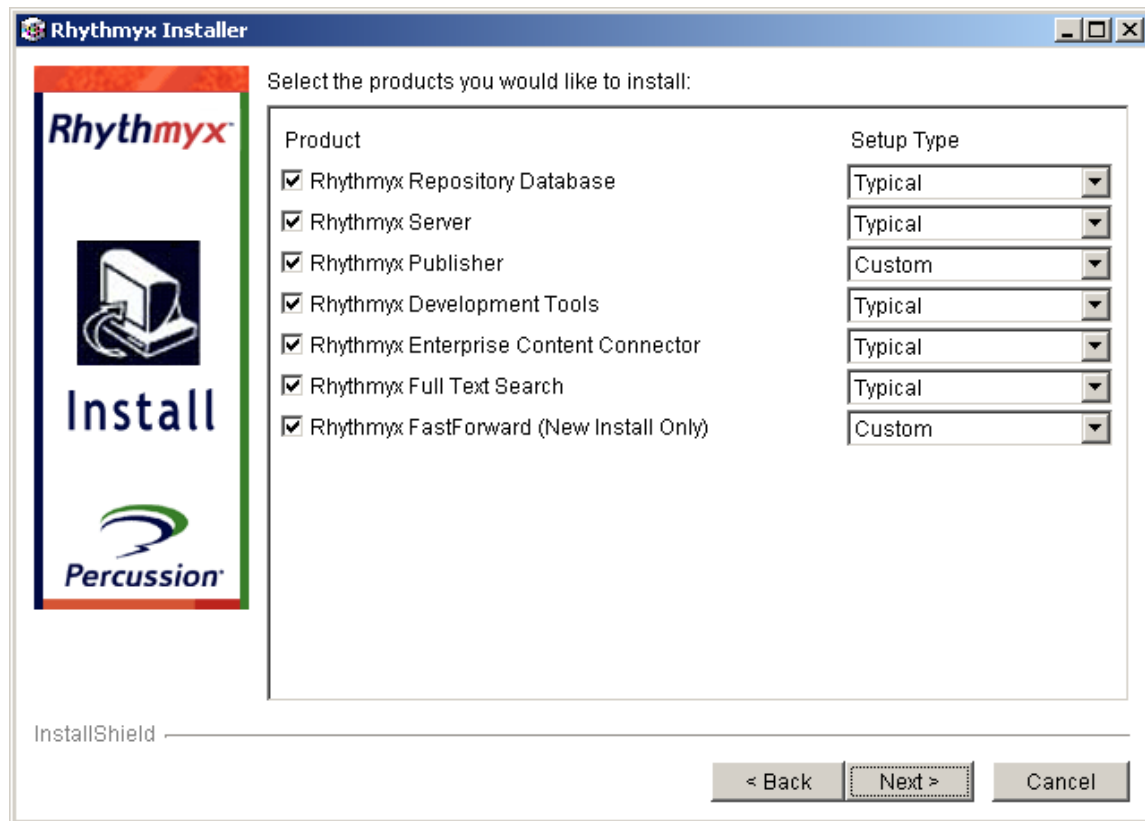


Figure 16: Select the products you would like to install dialog

- 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:

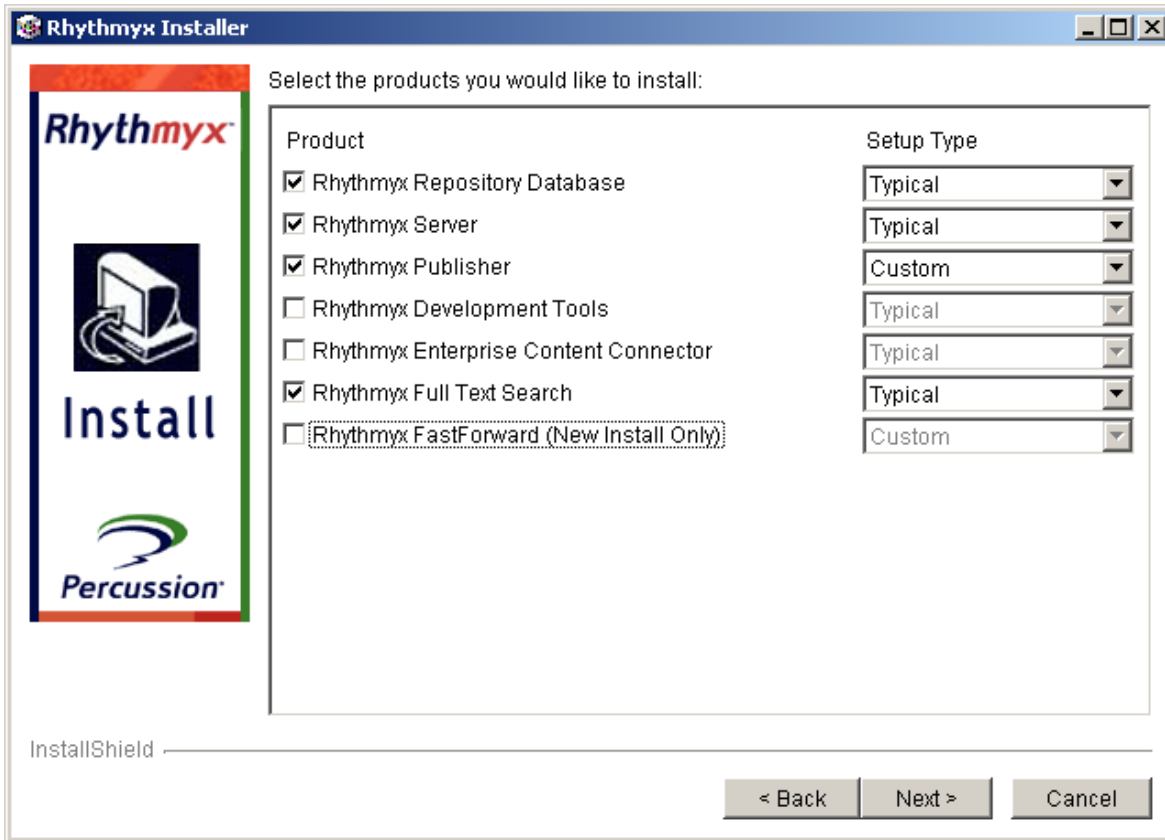


Figure 17: Recommended configuration for production server installation

- 9 Click the [Next >>] button.

The installation wizard displays the Select Publisher Features dialog.

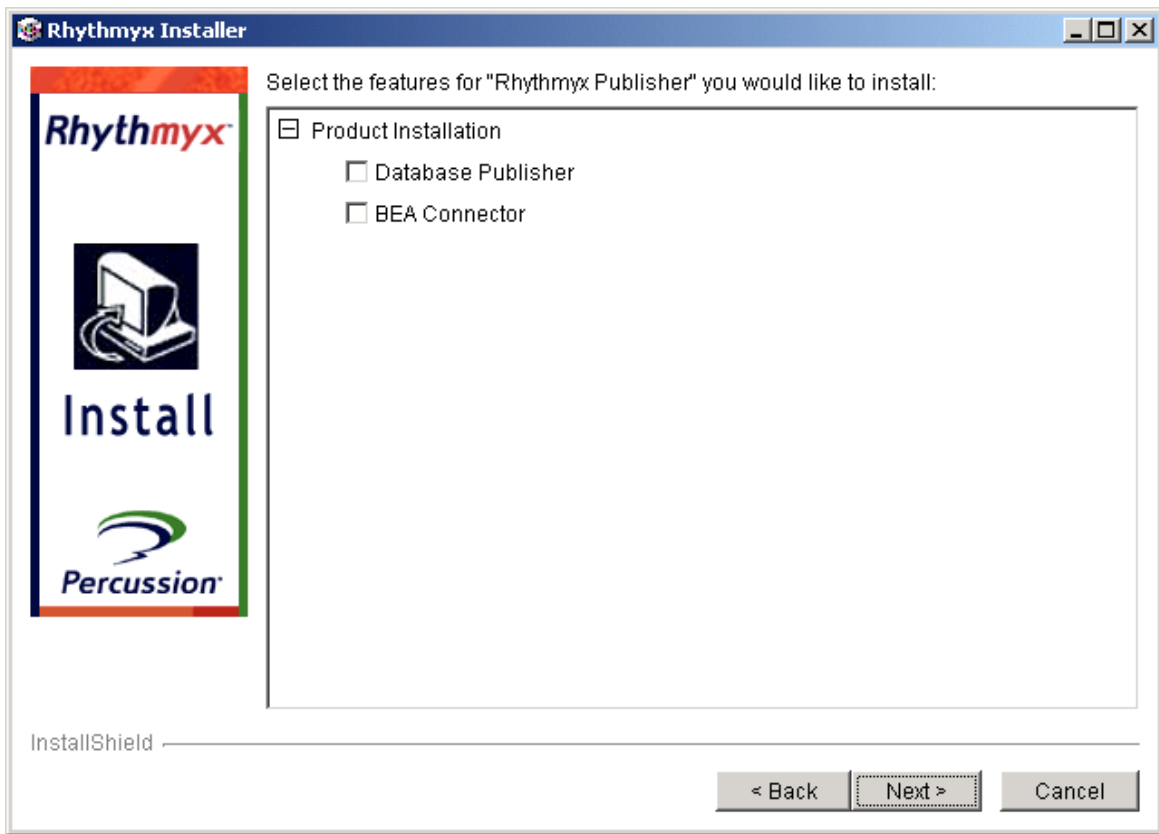


Figure 18: Select Publisher Features dialog

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

The install wizard displays the Installation Information dialog

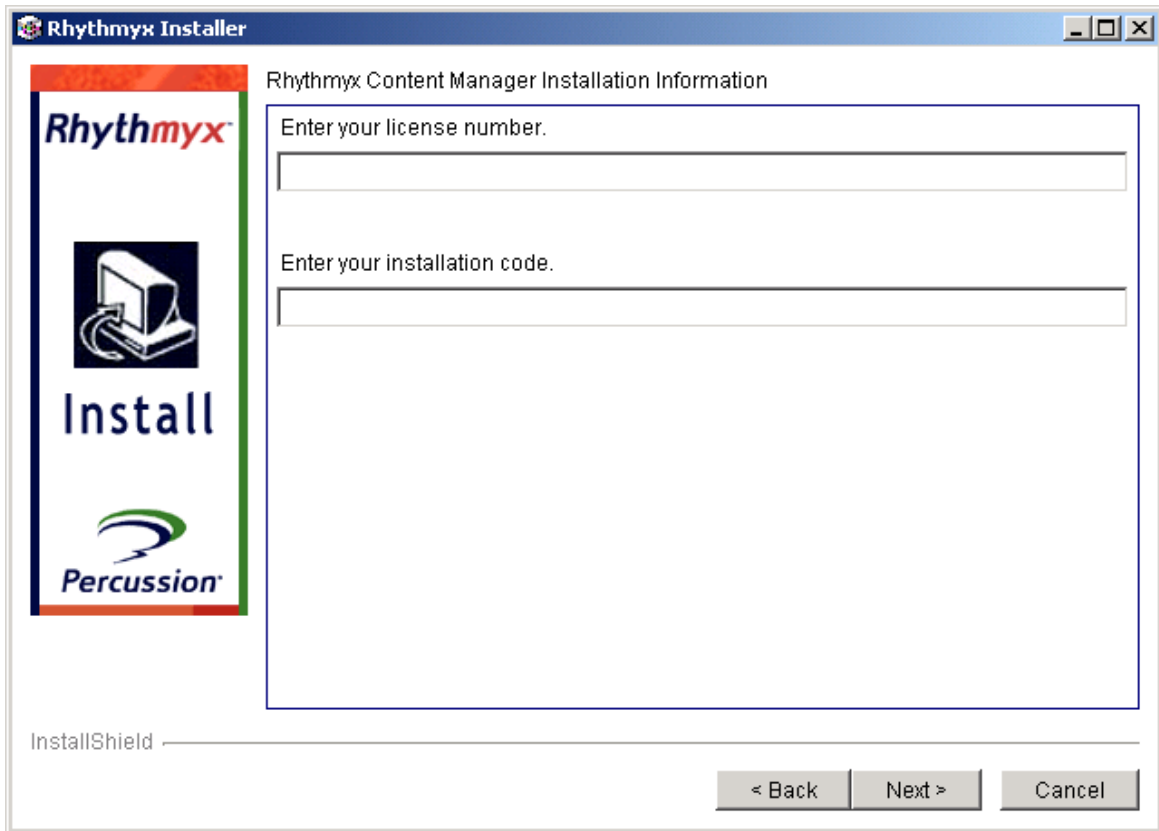


Figure 19: Installation Information dialog

- 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.

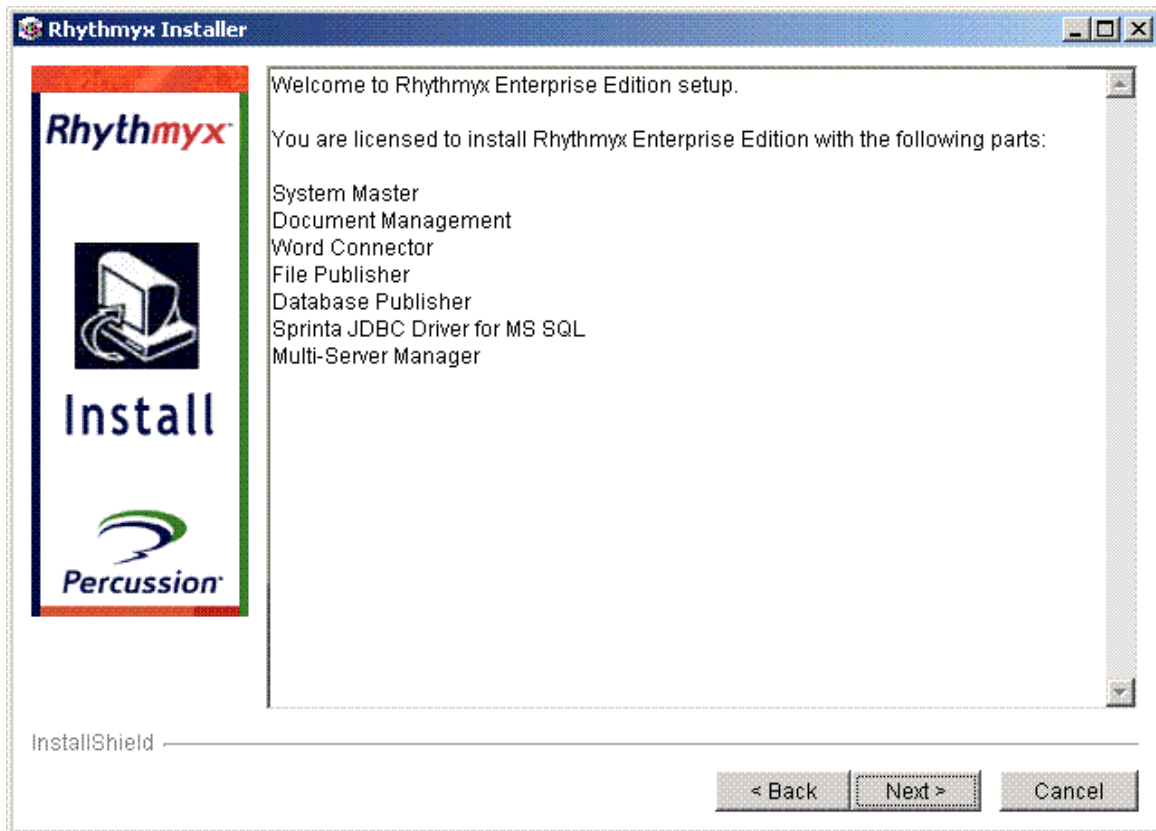


Figure 20: License summary dialog

12 Click the [Next >>] button.

The installation wizard displays the Repository Database Selection dialog.

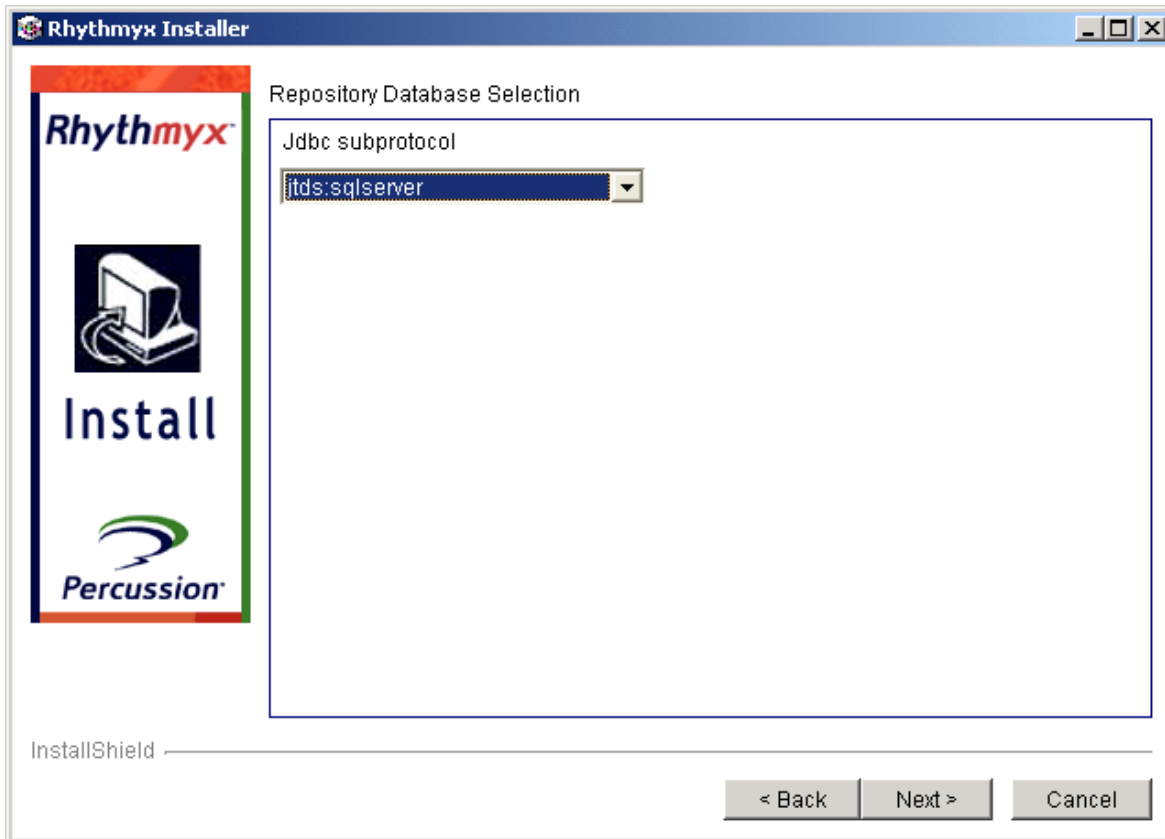


Figure 21: Repository Database Selection dialog

- 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.

The screenshot shows a Windows-style dialog box titled "Rhythmyx Installer". On the left side, there is a vertical sidebar containing the Rhythmyx logo at the top, a central "Install" button with a computer icon, and the Percussion logo at the bottom. The main content area is titled "Repository Database Selection" and contains three text input fields. The first field is labeled "Database Server: #{host}[:port=1433]" and is currently empty. The second field is labeled "Login ID" and is also empty. The third field is labeled "Password" and is empty. At the bottom right of the dialog, there are three buttons: "< Back", "Next >", and "Cancel". In the bottom left corner, the text "InstallShield" is visible.

Figure 22: 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`}). 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.

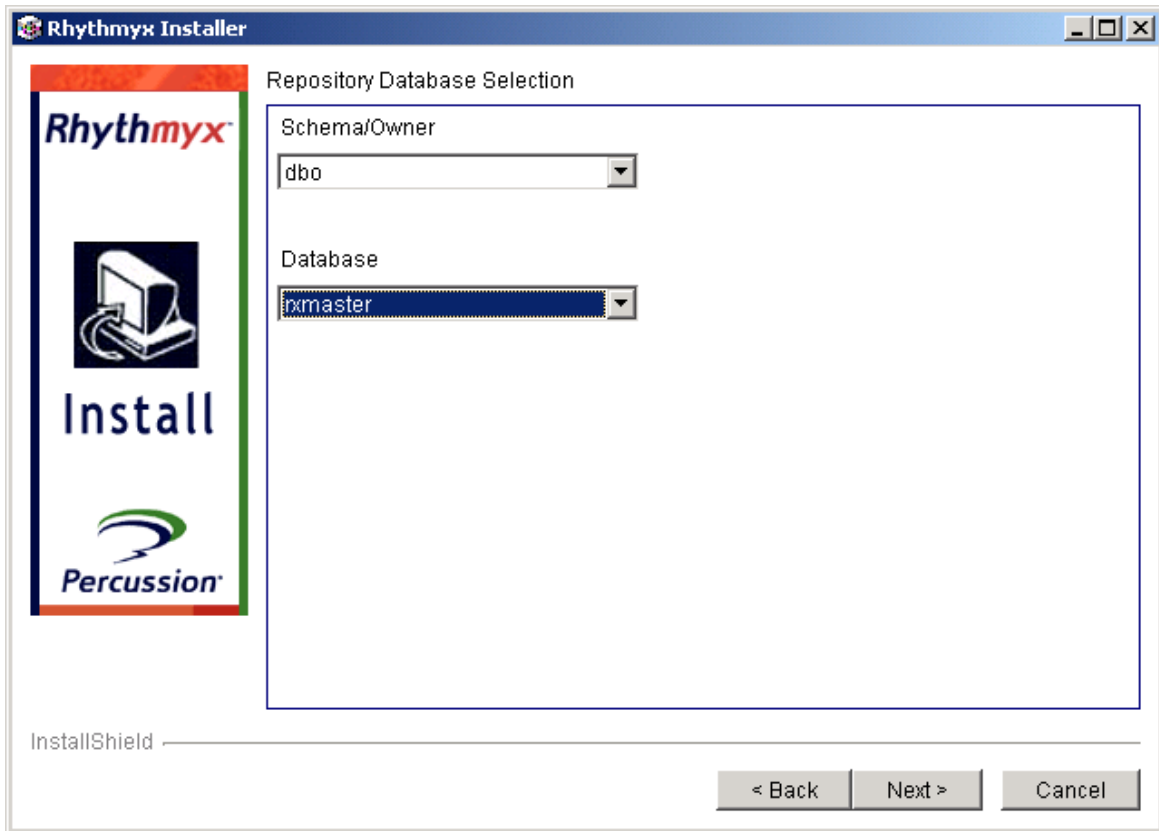


Figure 23: Schema and Database Definition dialog

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

The installation wizard displays the Rhythmyx Service Properties dialog

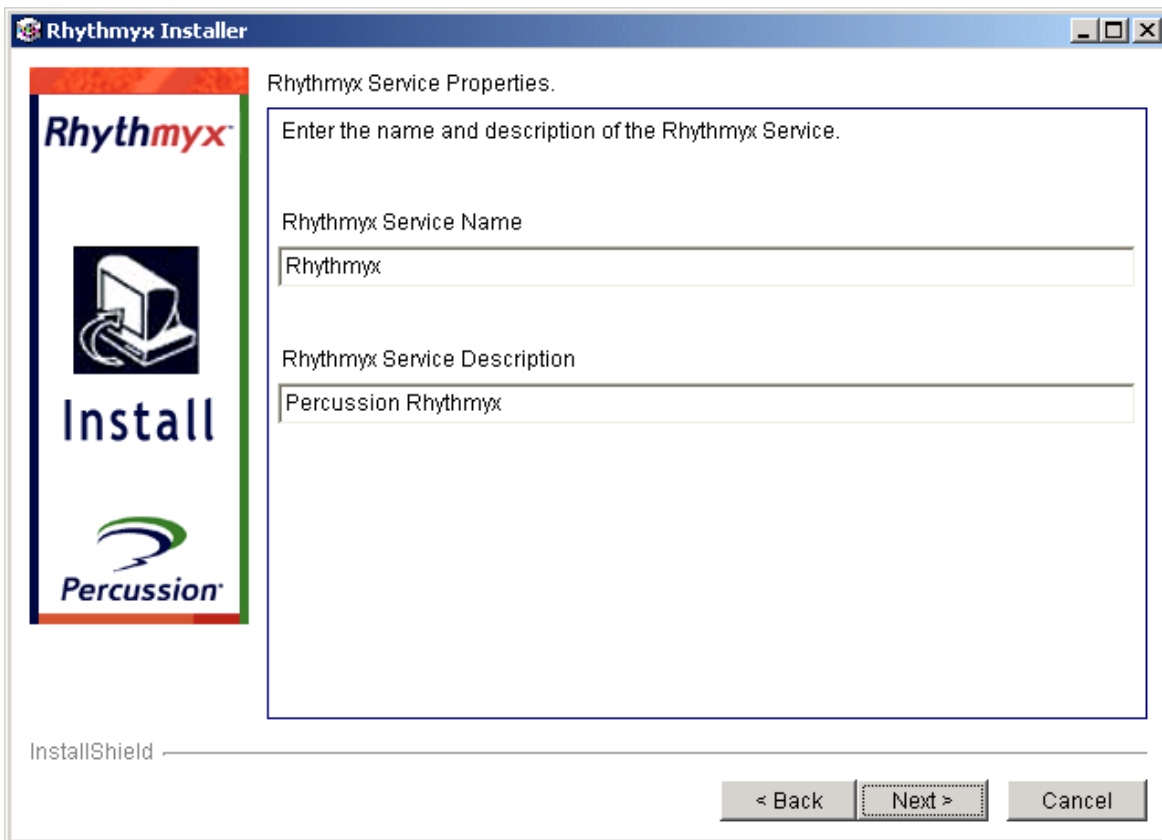


Figure 24: Rhythmyx Service Properties dialog

- 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.

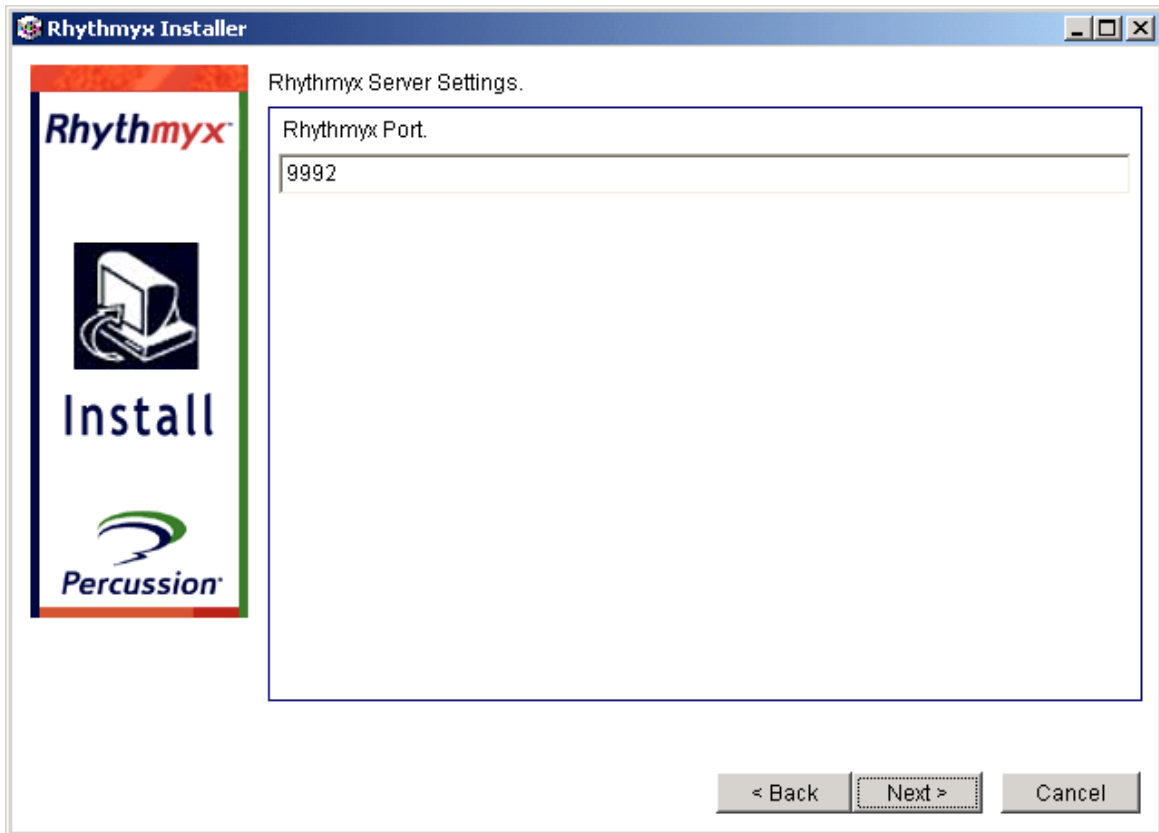


Figure 25: Rhythmyx Server Settings dialog

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

The installation wizard displays the Full Text Search Settings dialog

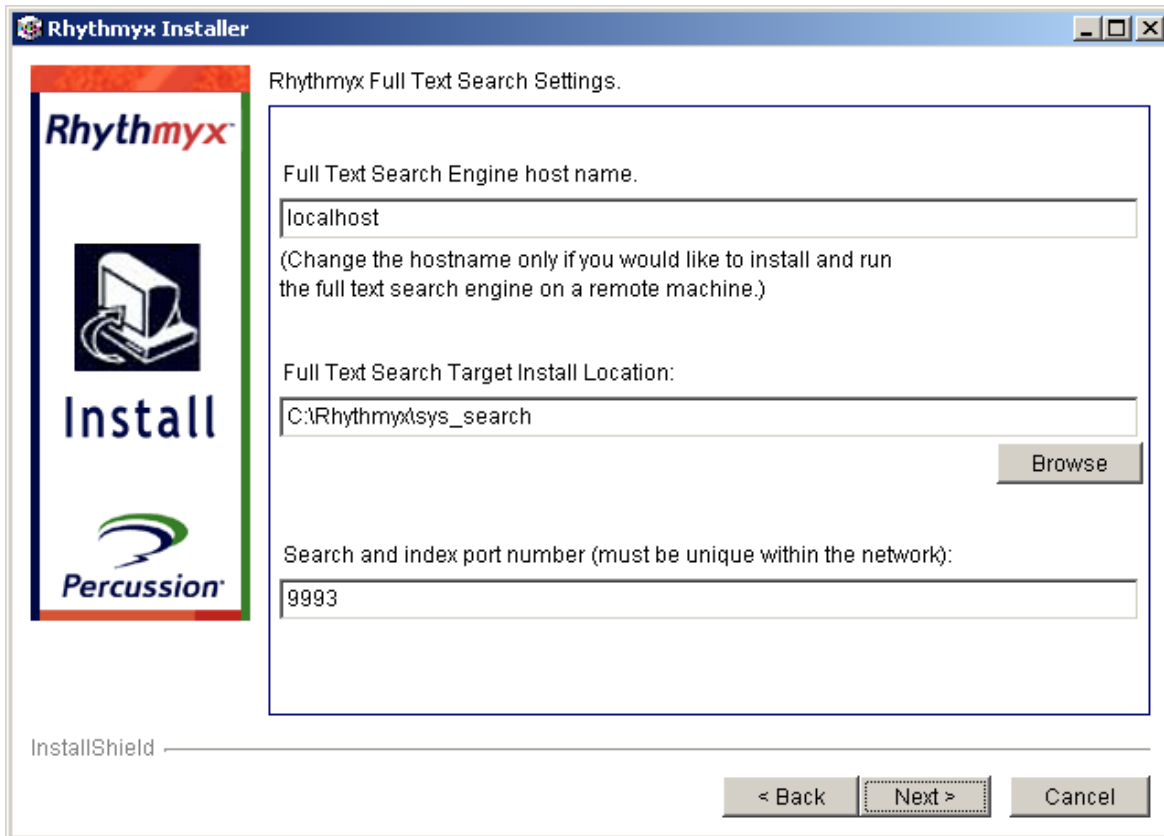


Figure 26: Full-text Search Settings dialog

- 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.) If you want to set up the Full-text search engine on a remote machine see (need appendix on setting up remote FTS engine). 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 Rhythmyx Tomcat Web Applications dialog.

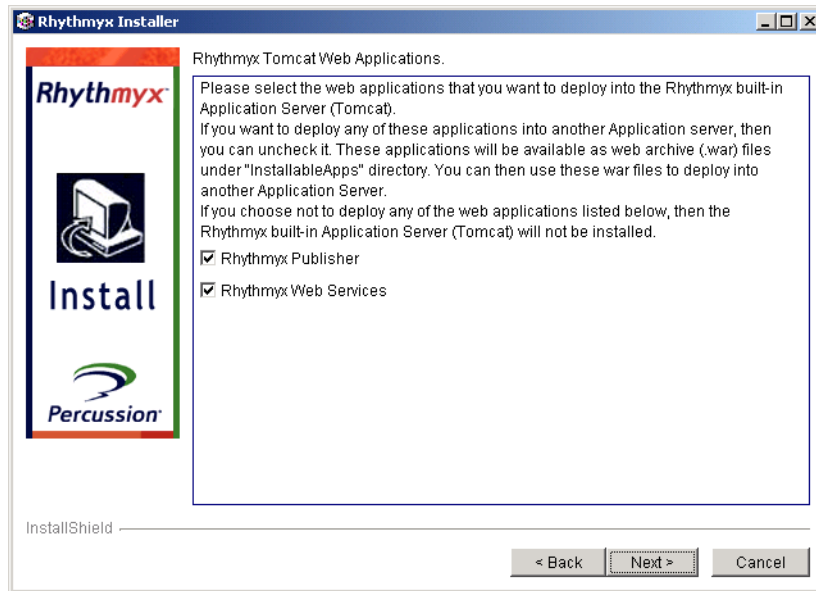


Figure 27: Rhythmyx Tomcat Web Applications dialog

19 Leave both boxes checked. Click the [Next >>] button.

The installation wizard displays the Application Server Properties dialog.

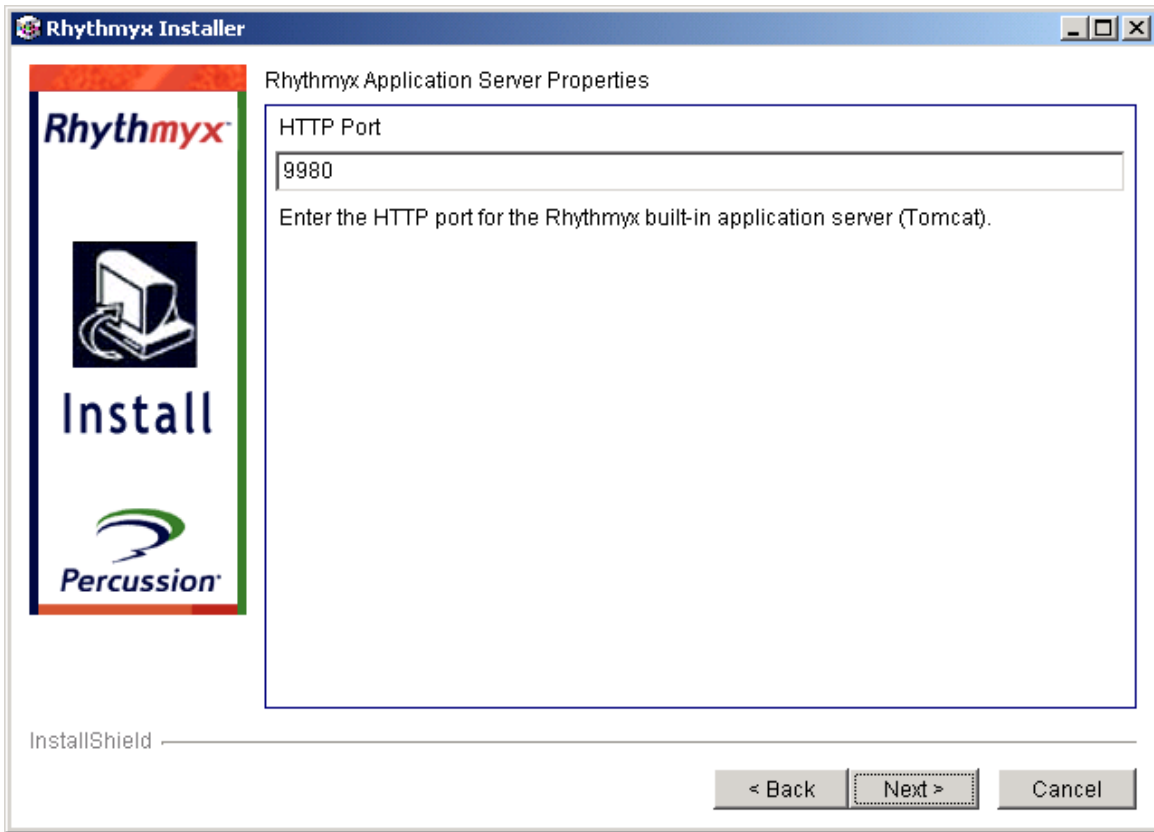


Figure 28: Application Server Properties dialog

20 Leave the default value (9980) in the HTTP Port field and click the [Next >>] button.

The installation wizard displays the Rhythmyx application server service name and description dialog.

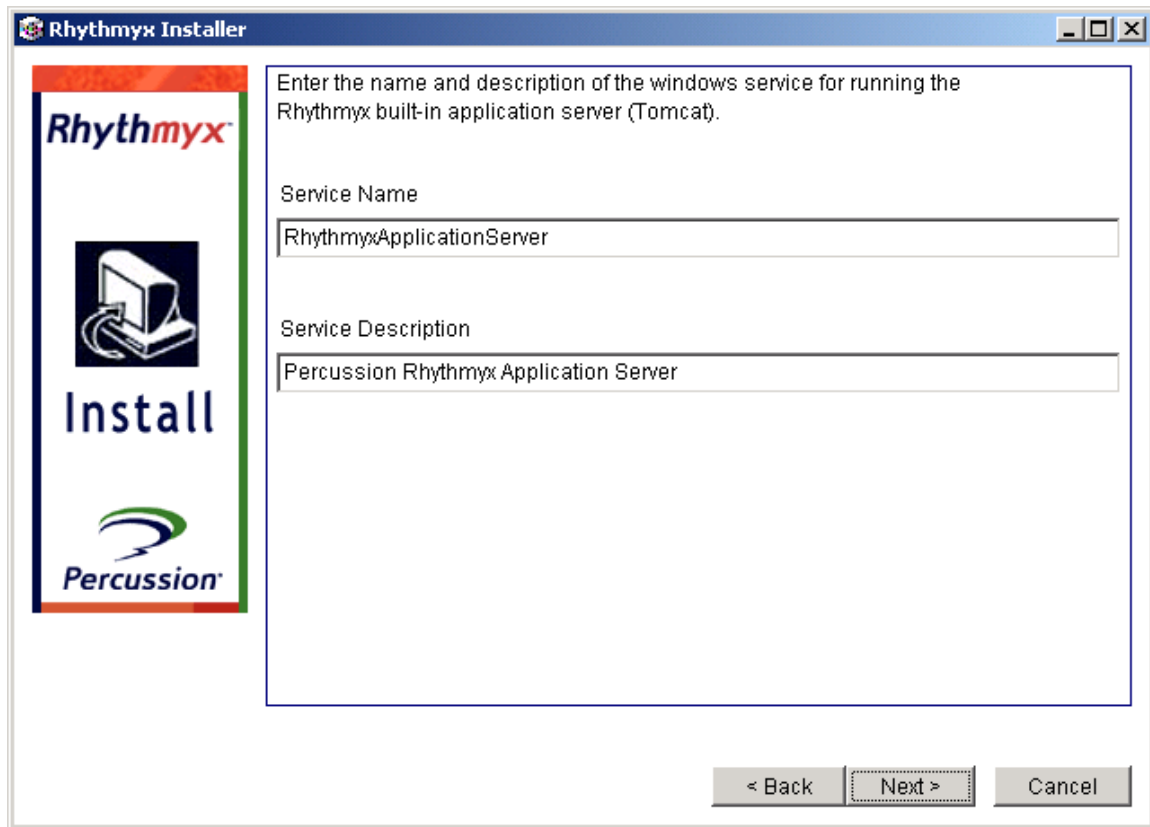


Figure 29: Rhythmyx application server service name and description dialog

- 21 Leave the default name (*Rhythmyx Application Server*) and Description (*Percussion Rhythmyx Application Server*) and click the [Next >>] button.

The install wizard displays the installation summary dialog.

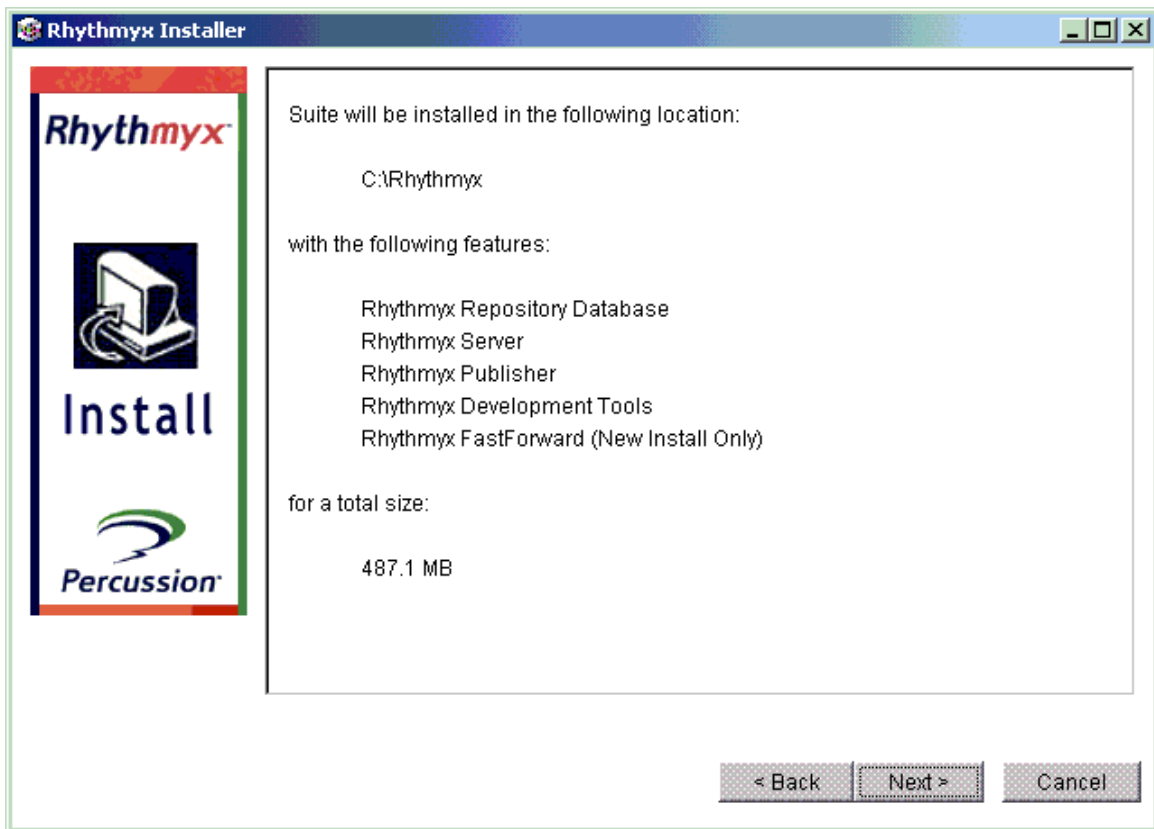


Figure 30: Installation summary dialog

- 22** 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 FastForward for Web Content Management*.

- 23** Click the [Finish] button.

The installation wizard displays the readme dialog.

- 24** 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:tempdir /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 31: 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] █
  
```

Figure 32: License agreement

- 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 33: 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 34: 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 35: Important installation information

- 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 36: 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 37: 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 38: 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 39: 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 40: 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 41: 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
  2. [ ] BEA Connector

Other options:

  0. Continue installing

Enter command [0] 0
```

Figure 42: 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 43: 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 44: 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 45: 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 46: 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

```

Figure 47: Specifying the Oracle database

- 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 48: 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. WMSYS
40. WK_TEST
41. WMSYS
42. XDB

[1] 7
```

Figure 49: Select Schema Name

- 24** 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 50: Choose Bind Port Number

- 25** 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 51: Unique Port Number Warning

- 26** 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 (APPENDIX ON SETTING UP REMOTE FTS).

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 52: Full Text Search Settings

- 27** Select the applications you want to install into the default Rhythmyx application server – Tomcat. The options are Rhythmyx Publisher and Rhythmyx Web Services. If you are using a different application server, you can leave all options unselected. If you want to run some applications from Tomcat (the default web server) and some from another web server, select only the application(s) you want to run from Tomcat. Enter 1 for each application you want to run from Tomcat and press Enter.

```
Rhythmyx Tomcat Web Applications.  
  
  1. Yes  
  2. No  
  
Install Rhythmyx Publisher [2] 1  
  1. Yes  
  2. No  
  
Install Rhythmyx Web Services [2] 1  
  
Press 1 for Next, 2 for Previous, 3 to Cancel or 4 to Redisplay [1] 1
```

Figure 53: Applications to Install in Tomcat

- 28** Press Enter to accept the default port of 9980 for the Rhythmyx web application server.

```
Rhythmyx Application Server Properties  
  
HTTP Port  
  
HTTP Port [9980]
```

Figure 54: Default Port for Tomcat Application Server

- 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 55: 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 56: Rhythmyx Installation Messages

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 Variants
- 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* (on 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 10) .

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 8982.

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 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.

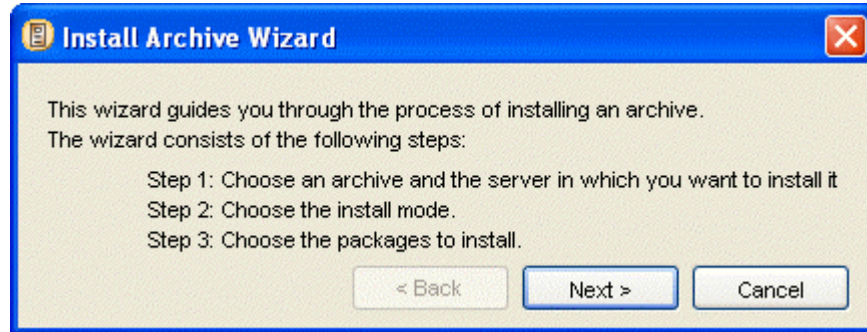
To install the Content Types archive:

- 1 On your development machine, start Multi-Server Manager.

- 2 In the Multi-Server Manager Menu bar, choose *Action > Install Archive*.

Multi-Sever 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.



- 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.

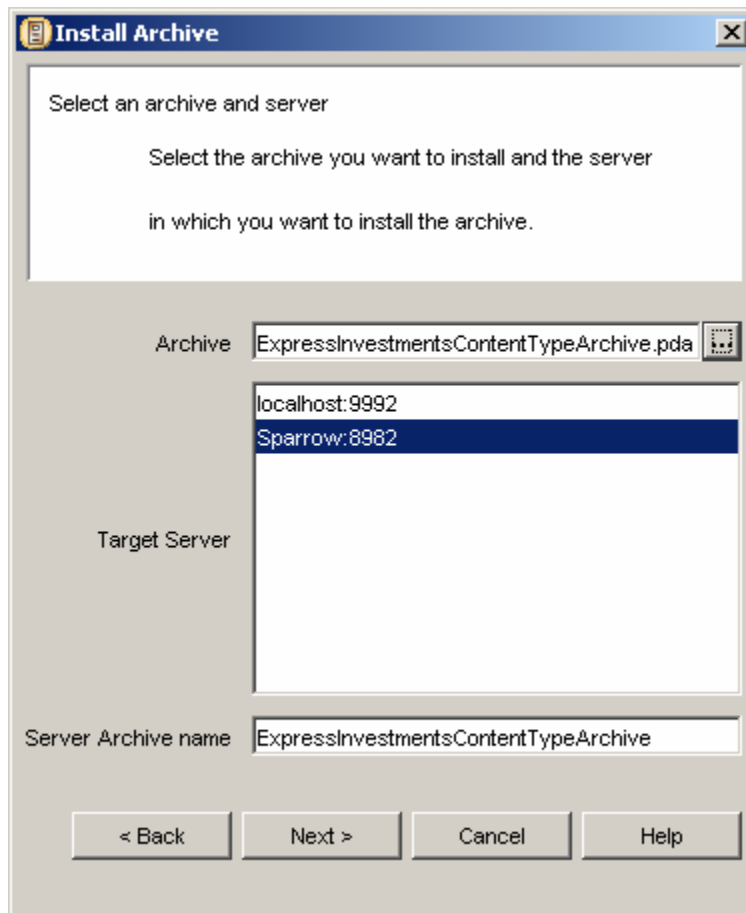


Figure 57: Select Archive and Server dialog showing Content Types archive specified to deploy to the server Sparrow.

- 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.

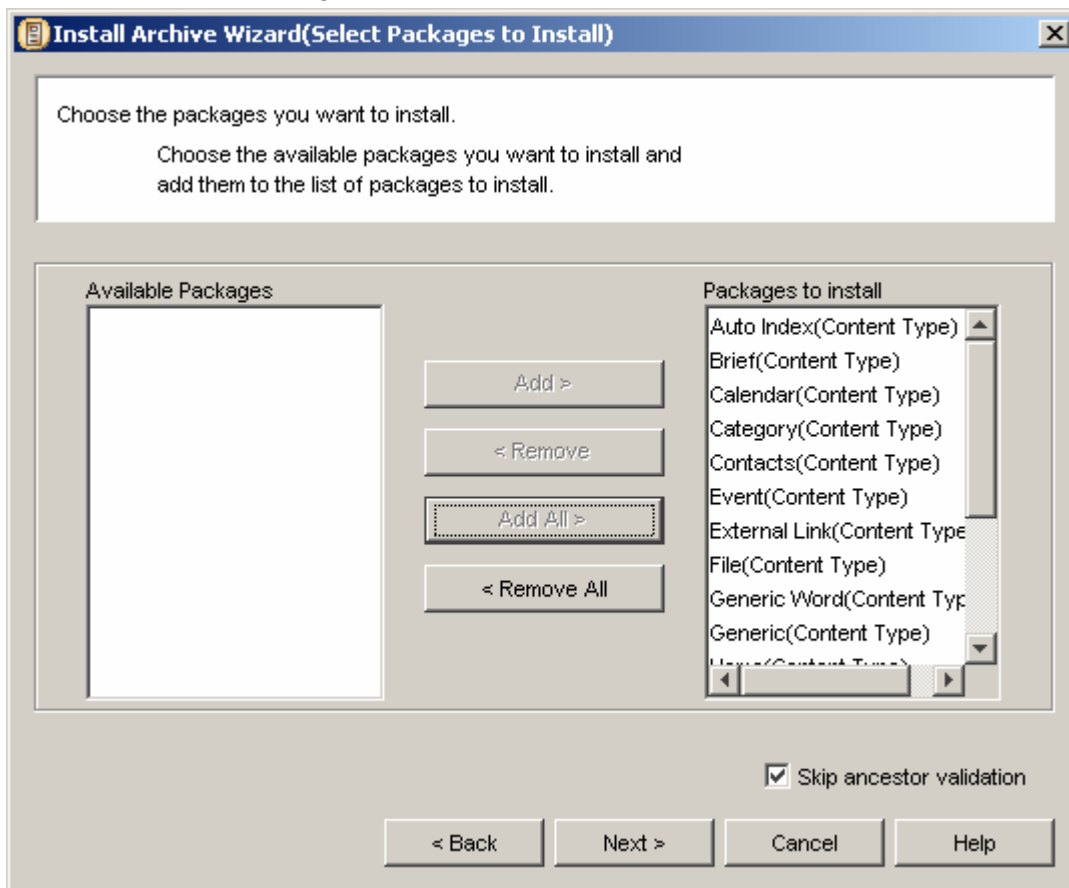


Figure 58: Choose Packages to Install dialog with all Content Type packages selected for installation

- 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.

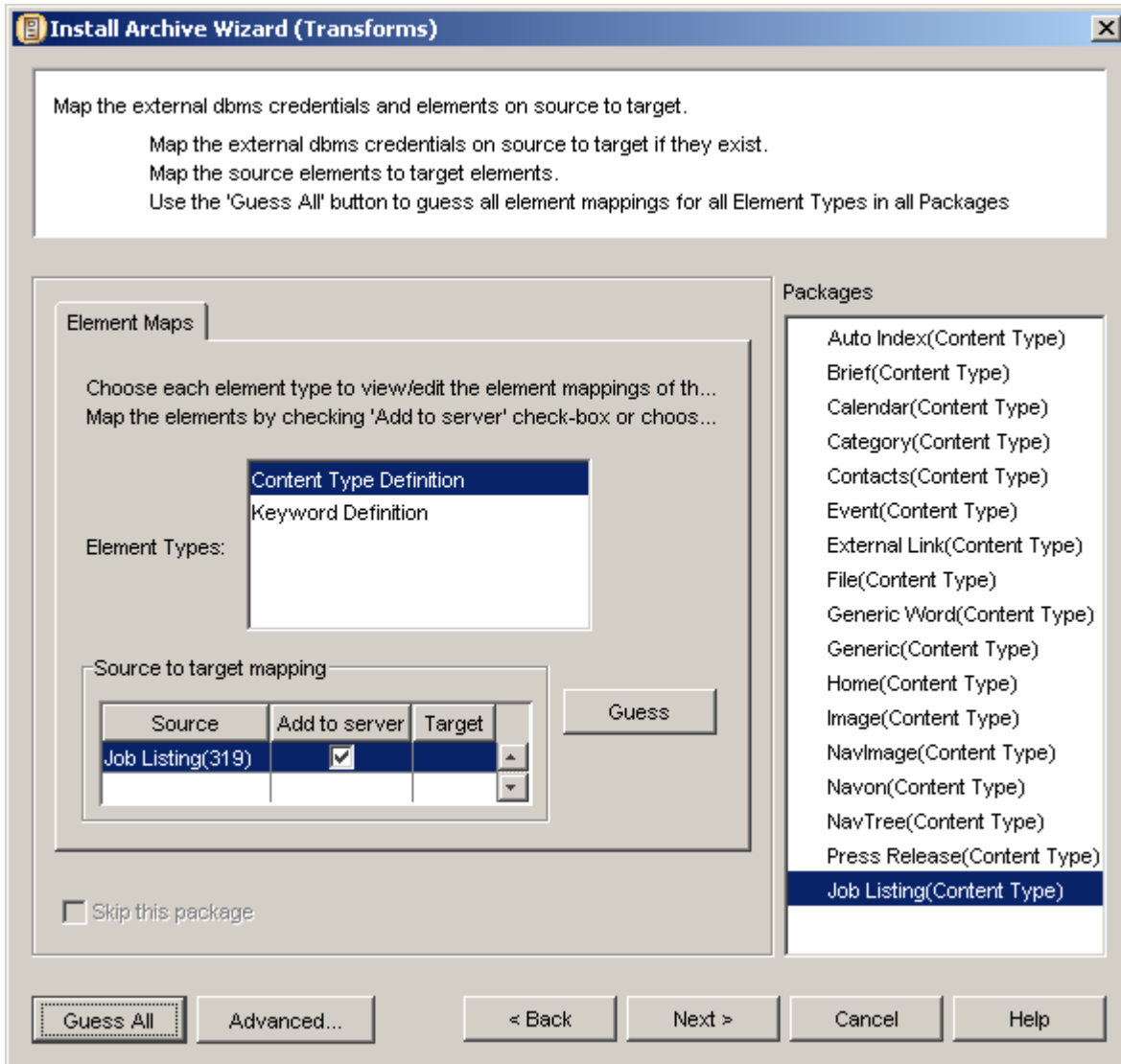


Figure 59: Transforms dialog showing Job Listing Content Type definition added to server

- 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.

Since the only dependencies for Content Types are Workflows, and Workflows have already been installed previously, we will see only a few validation errors for XSL stylesheets that already exist on the server.

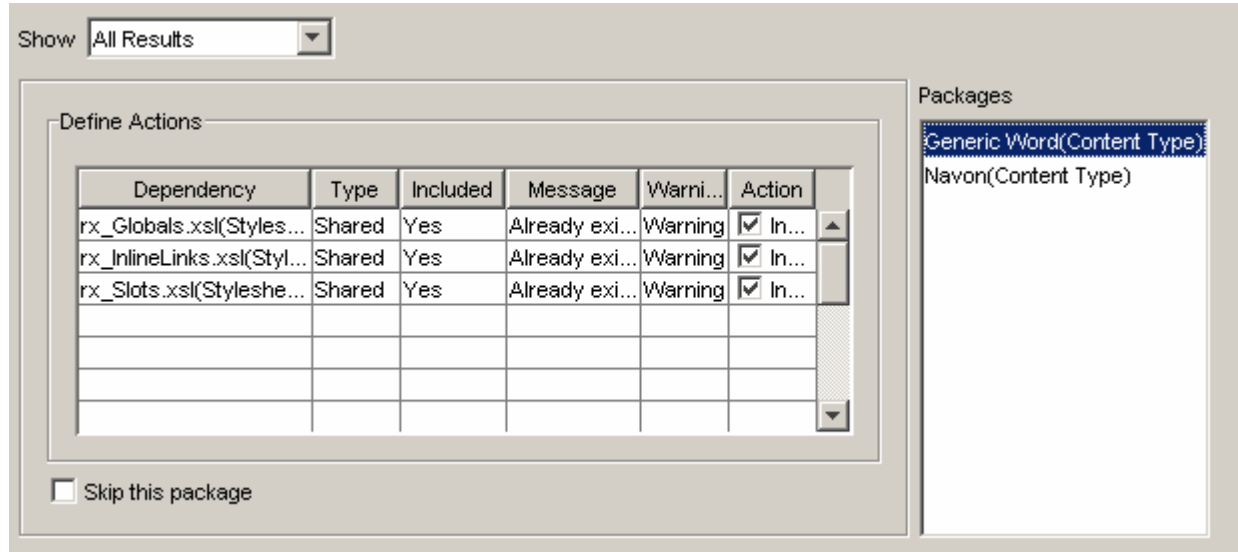


Figure 60: Validation dialog showing validation errors for the Content Types archive

If the value in the **Warning** 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** 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 files 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.

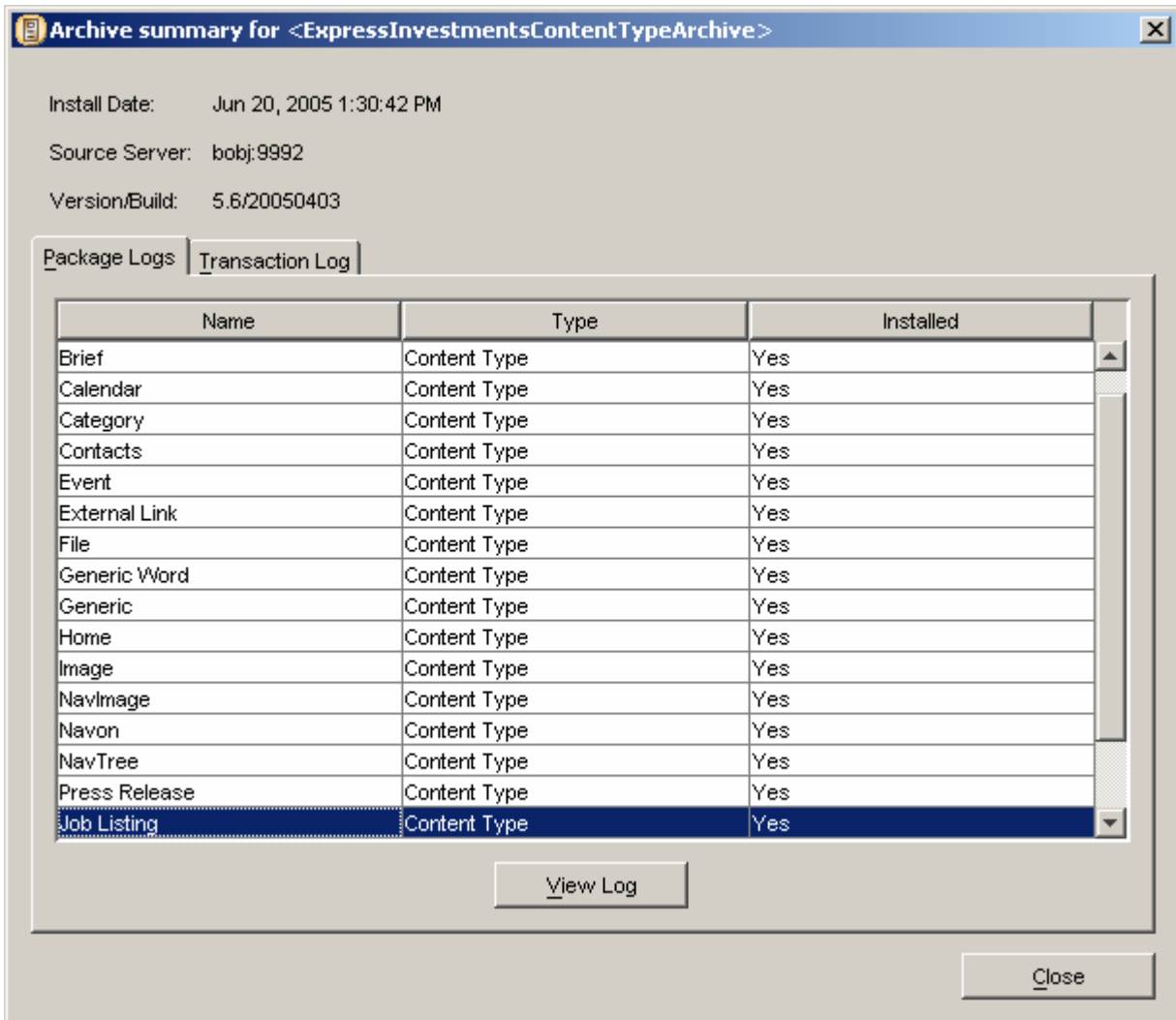


Figure 61: Log Summary dialog for Content Types archive

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.

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.

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.

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:

- Nancy Needlenose is a member of the Content Contributors Group, and we want to assign her to the Author Role in Rhythmyx. Nancy does not belong to any other groups, and she should not be assigned to any other functional Roles.
- Tiara Tuna is a second member of the Content Contributors Group. She should have the same permissions as Nancy.
- Bobby Bluefin is a member of the Team Captains Group, but he is the only member of that group we want to have access to Rhythmyx. He will be a member of the Admin Role.
- All three of these users must be Members of the XI_Members Community.

We will also use Bobby Bluefin to bind to the directory server, so he 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, Bobby 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 Nancy and Tiara 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.

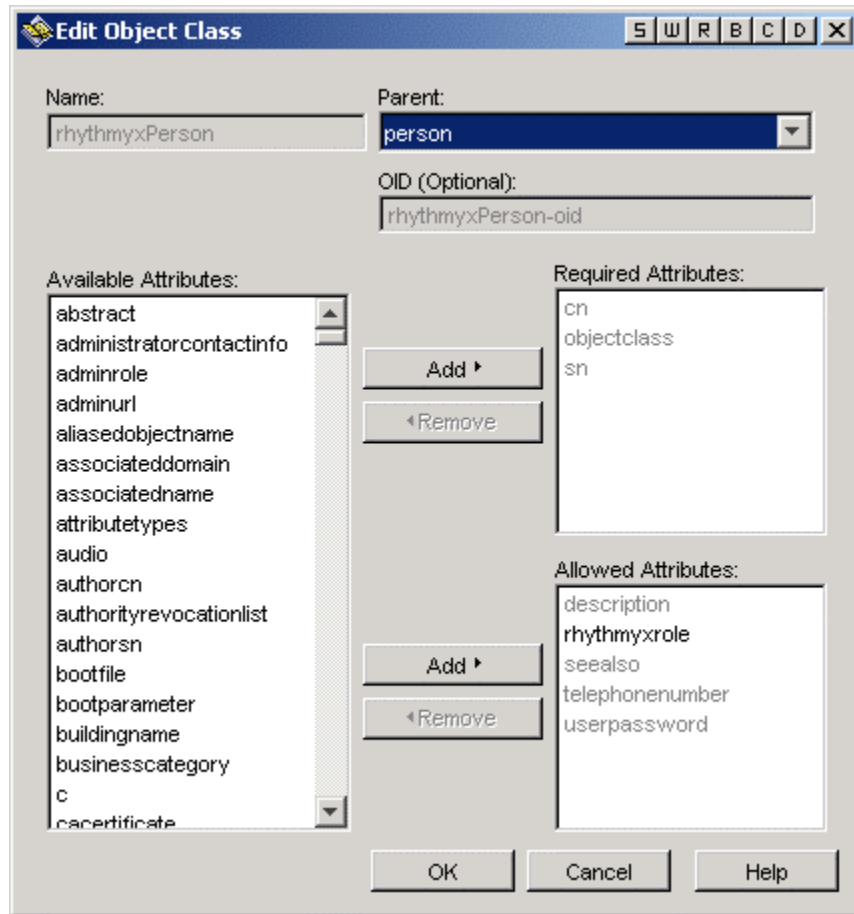


Figure 62: `rhythmyxPerson` Object Class with `rhythmyxrole` Attribute

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



Figure 63: `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, Bobby Bluefin's Role definition would be:

rhythmyxrole	XI_Members
	Admin

Figure 64: LDAP Role Definition for Bobby Bluefin

While the Role definition for Nancy and Tiara would be:

rhythmyxrole	XI_Members
	Author

Figure 65: LDAP Role Definition for Tiara Tuna and Nancy Needlenose

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 66: Connection for Bobby Bluefin

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

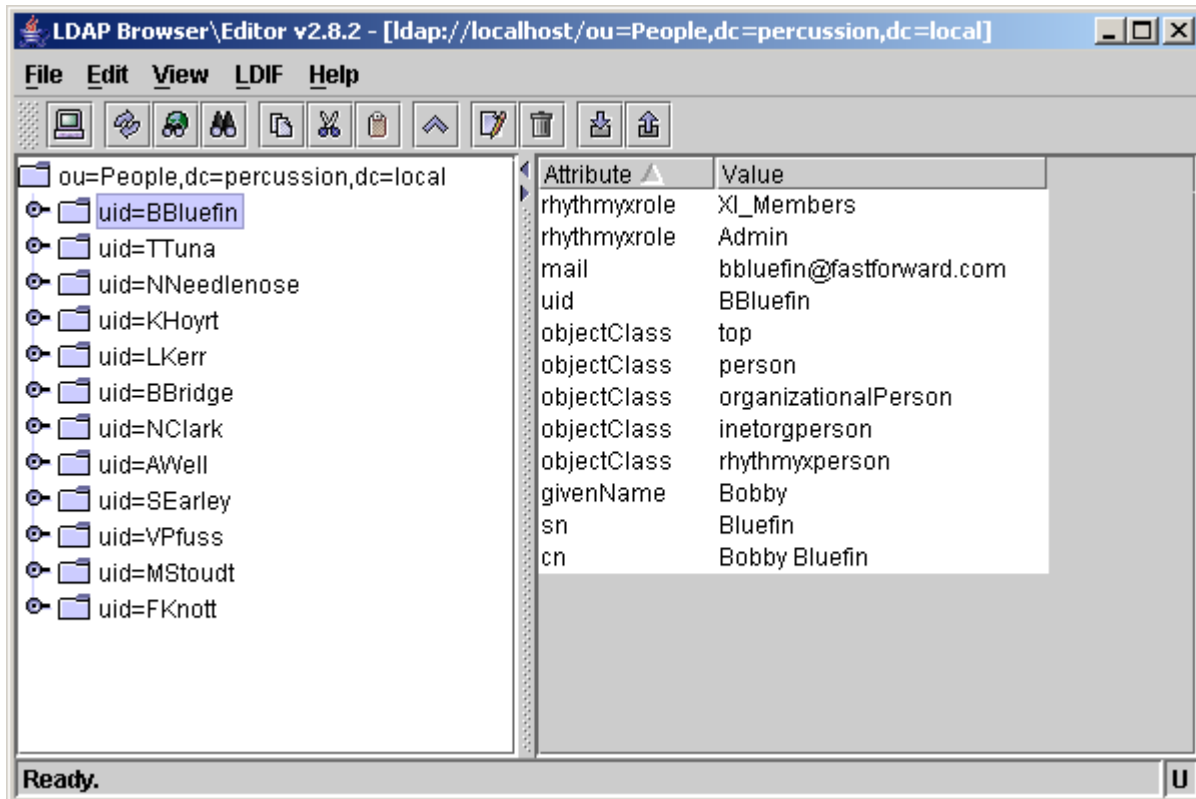


Figure 67: LDAP Browser connected using Bobby Bluefin's Connection

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 *BBluefin*.
- 7 In the **Password** field, enter *DeepSea* (which is Bobby Bluefin's password).

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

Figure 68: 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:
 - d) Click the browse button next to the **Provider URL** field.

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

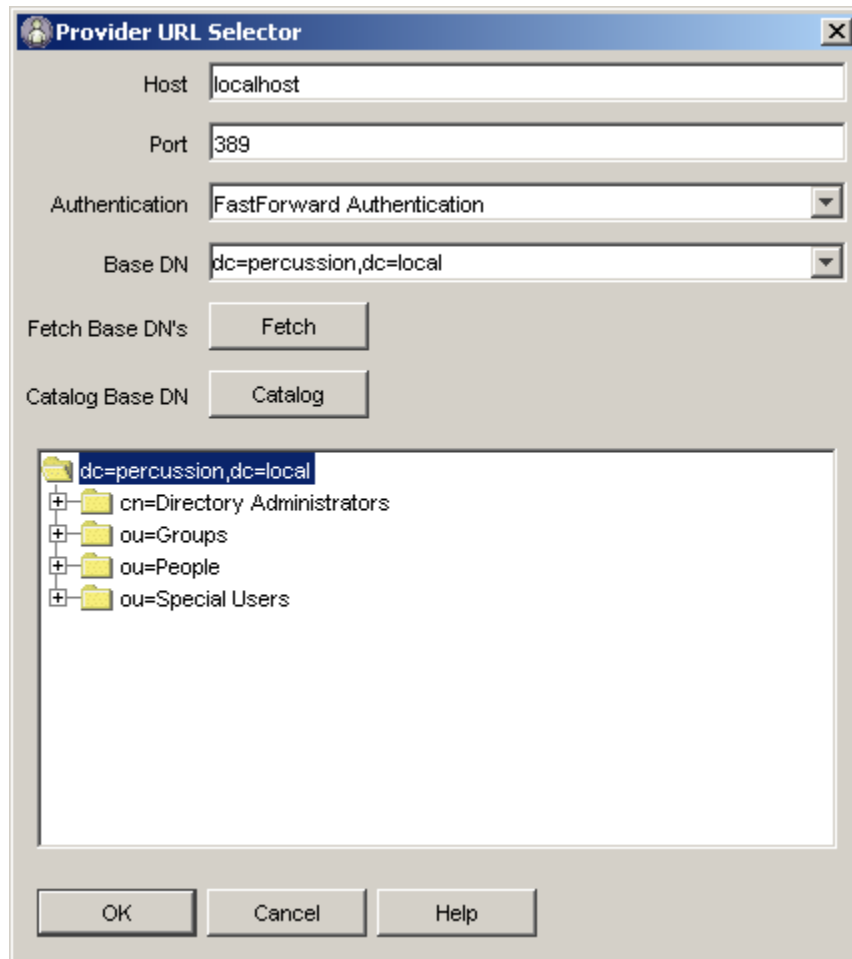


Figure 69: Provider URL Select Dialog showing DNs Cataloged and Fetched

- f) 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.
- g) In directory tree in the large unlabelled field, select the ou=People directory.
- h) Click the [**OK**] button.

i) Rhythmyx returns to the Directory Editor dialog.

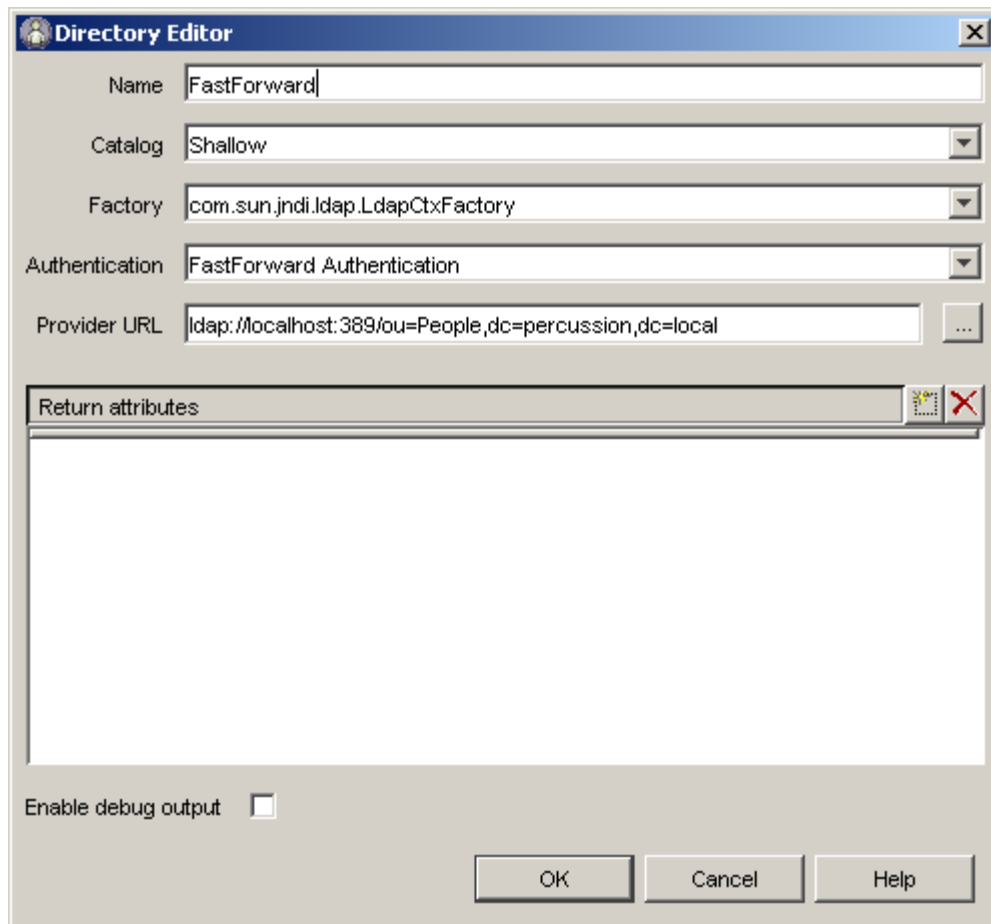


Figure 70: FastForward Directory Definition

- 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*.

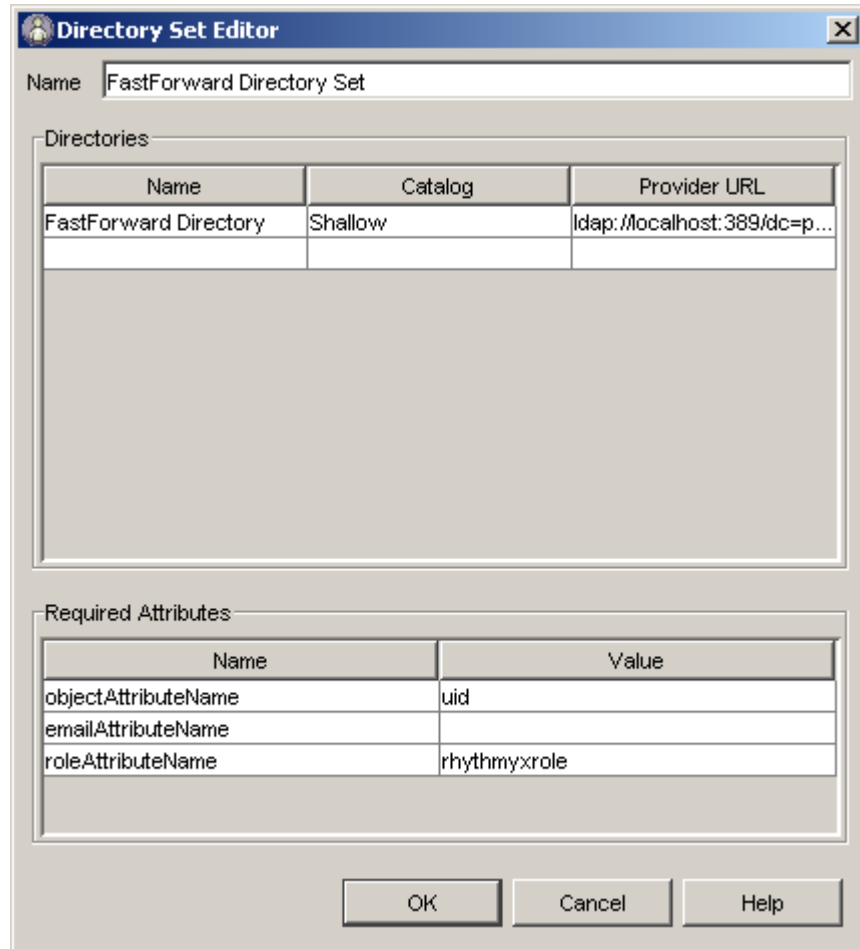


Figure 71: FastForward Directory Set

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

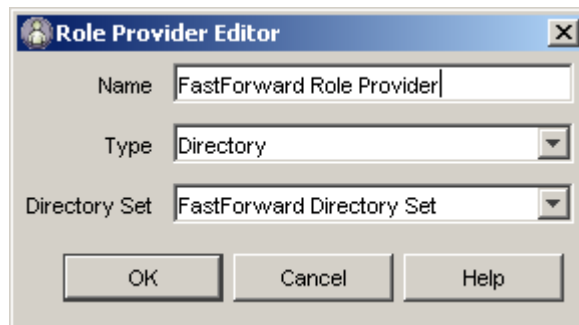


Figure 72: FastForward Role Provider

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

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*.

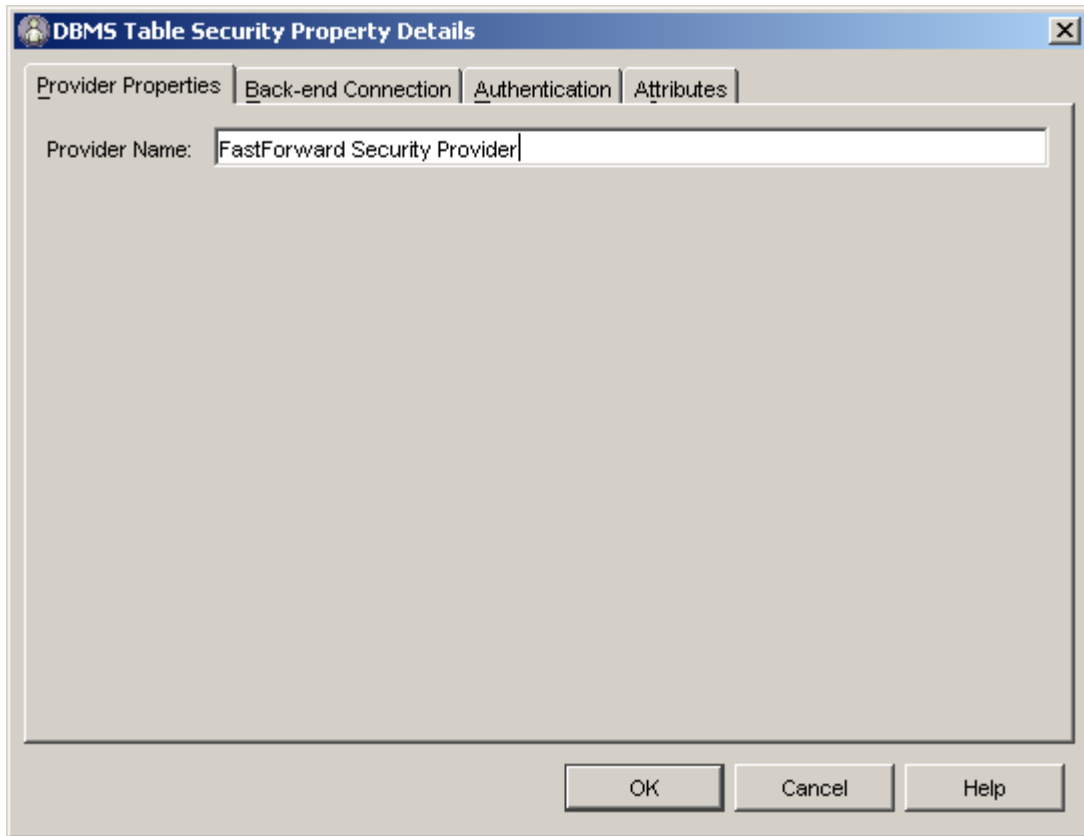
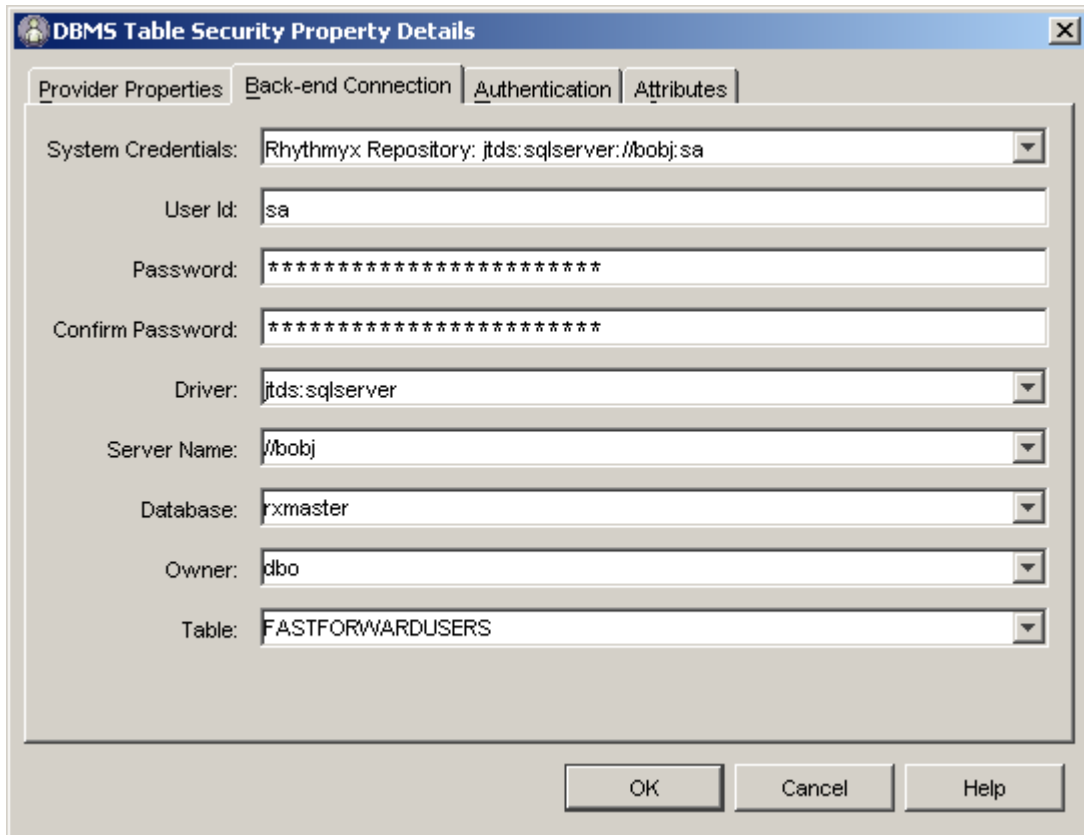


Figure 73: Backend Security Provider Properties Tab

- 5 Define the backend connection:
- Click the Backend Connection tab.
 - 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:
 - User ID**
 - Password**
 - Confirm Password**
 - Driver**
 - Server Name**
 - In the **Database** drop list, choose *rxmaster*.
 - In the **Owner** drop list, choose the database owner (for example, *dbo*).

- e) In the **Table** drop list, choose *FASTFORWARDUSERS*.



The screenshot shows a dialog box titled "DBMS Table Security Property Details" with a close button (X) in the top right corner. The dialog has four tabs: "Provider Properties", "Back-end Connection", "Authentication", and "Attributes". The "Back-end Connection" tab is selected. The dialog contains several fields and dropdown menus:

- System Credentials:** A dropdown menu showing "Rhythmyx Repository: jtds:sqlserver://bobj:sa".
- User Id:** A text input field containing "sa".
- Password:** A text input field containing a series of asterisks.
- Confirm Password:** A text input field containing a series of asterisks.
- Driver:** A dropdown menu showing "jtds:sqlserver".
- Server Name:** A dropdown menu showing "bobj".
- Database:** A dropdown menu showing "rxmaster".
- Owner:** A dropdown menu showing "dbo".
- Table:** A dropdown menu showing "FASTFORWARDUSERS".

At the bottom of the dialog, there are three buttons: "OK", "Cancel", and "Help".

Figure 74: Backend Security Provider Connections Tab

- 6** Define the Authentication:
- Click the Authentication tab.
 - In the **User Id Column** drop list, choose *USERNAME*.

c) In the Password drop list, choose *LOGIN*.

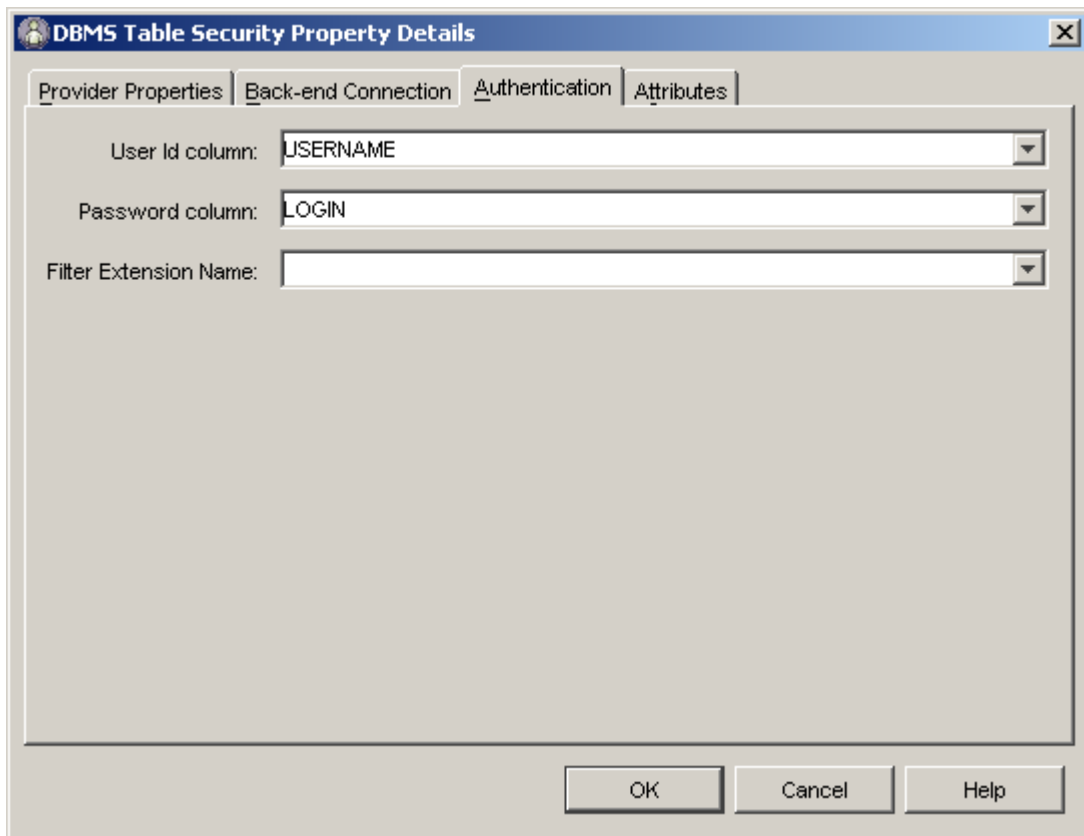


Figure 75: Backend Security Provider Authentication Tab

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 77) as well.

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*.
- 6 In the Role Provider drop list, choose *FastForward Role Provider*.



Figure 76: FastForward Directory Connection Security Provider

- 7 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 Bobby Bluefin. When the browser displays the login dialog, we enter the username BBluefin and enter Bobby's password (DeepSea). If we have configured everything correctly, Bobby will be authenticated and logged in to the XI_Members Community and the Admin Role:



Figure 77: Bobby Bluefin Logged in to Content Explorer

Tiara Tuna will be logged in to XI_Members Community and the Author Role:



Figure 78: Tiara Tuna Logged in to Content Explorer

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*.

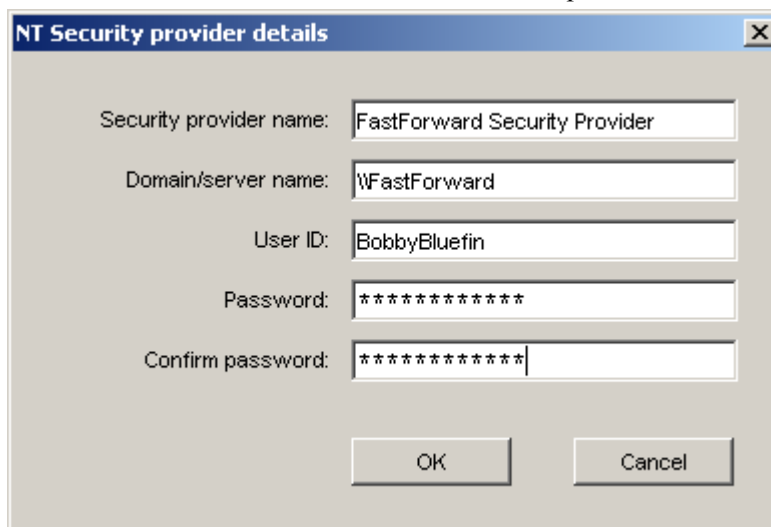


Figure 79: FastForward Windows NT Security Provider

- 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 77) 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 the purpose of this exercise, we will assume that we are using the Backend Table Security Provider we defined earlier. The table includes the users Nancy Needlenose, Tiara Tuna, and Bobby Bluefin. We need to add all three users to the XI_Members Role.

To add users to Rhythmyx Roles:

- 1** On the Rhythmyx Server Administrator, click the Security tab and the Roles sub-tab.
- 2** Select the XI_Members Role.
- 3** Click the [**Add Member(s)**] button.

Rhythmyx displays the Modify Member List for XI_Members dialog.

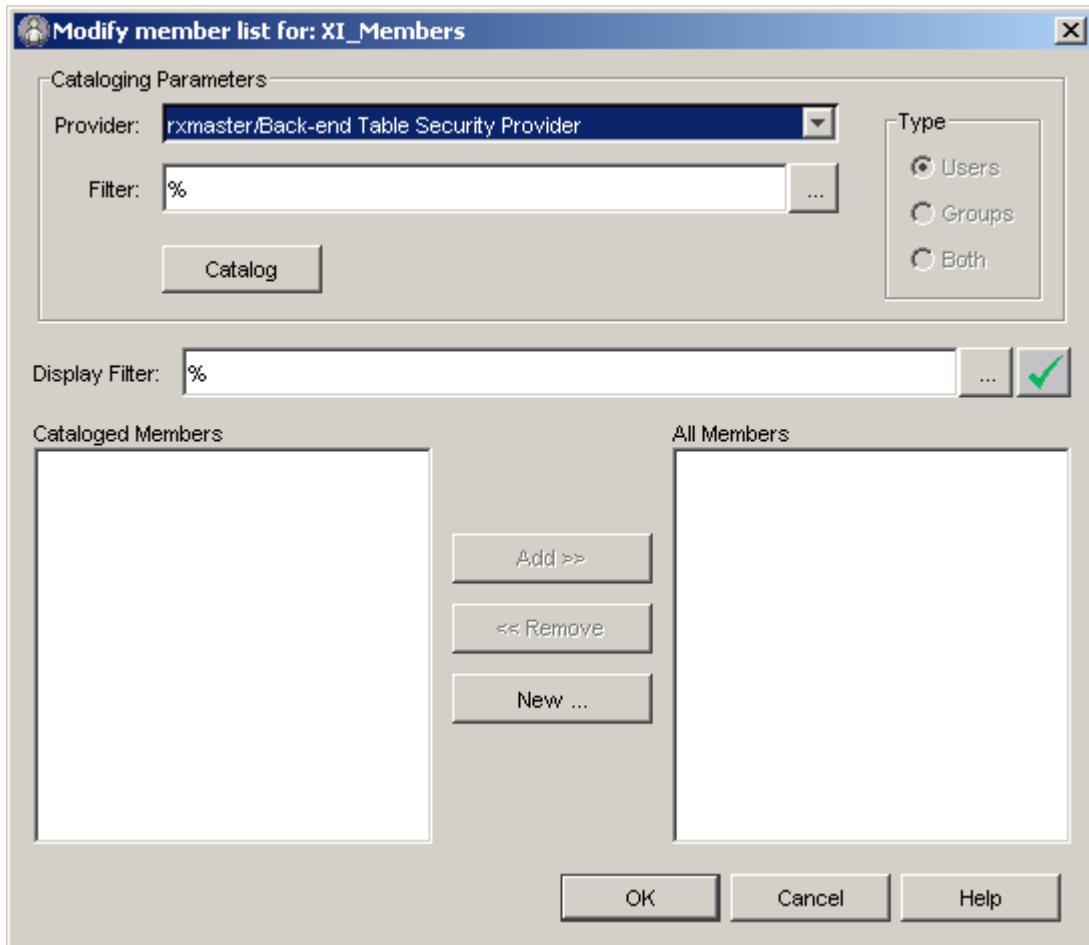


Figure 80: Modify Member List for XI_Members Dialog When First Displayed

- 4 In the **Provider** drop list, choose *FastForward Security Provider*.
- 5 Click the [**Catalog**] button.

Rhythmyx lists the users available from the FastForward Security Provider in the Cataloged Members field.

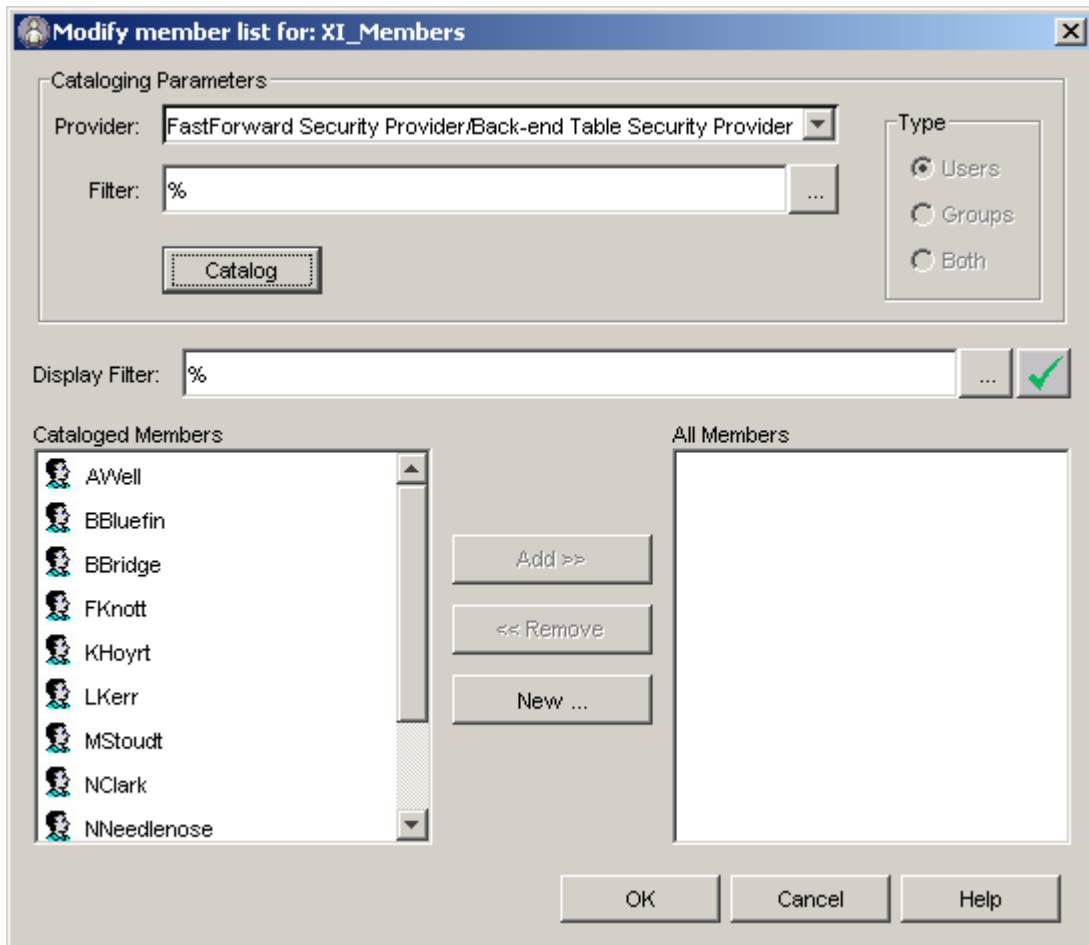


Figure 81: Modify Member List for XI_Members Dialog with Users Cataloged

- 6 In the **Cataloged Members** field, select BBluefin, NNeedlenose, and TTuna. When you select an entry in this field, the **[Add >>]** button will be enabled. Click this button to move the selected entries to the **All Members** field.

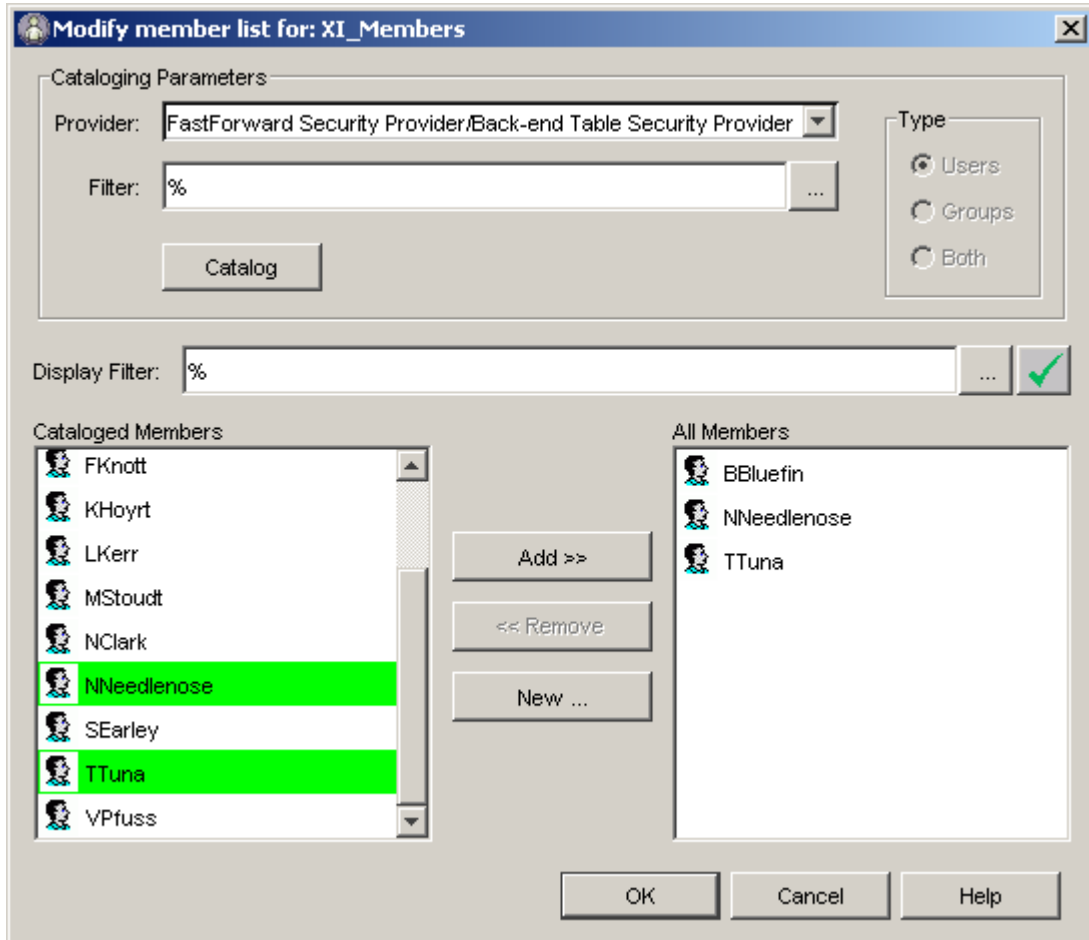


Figure 82: Modify Member List for XI_Members Dialog with Members Added

- 7 Click the **[OK]** button to save your changes.

Rhythmyx returns you to the Roles tab, with the new Members added to the Role:

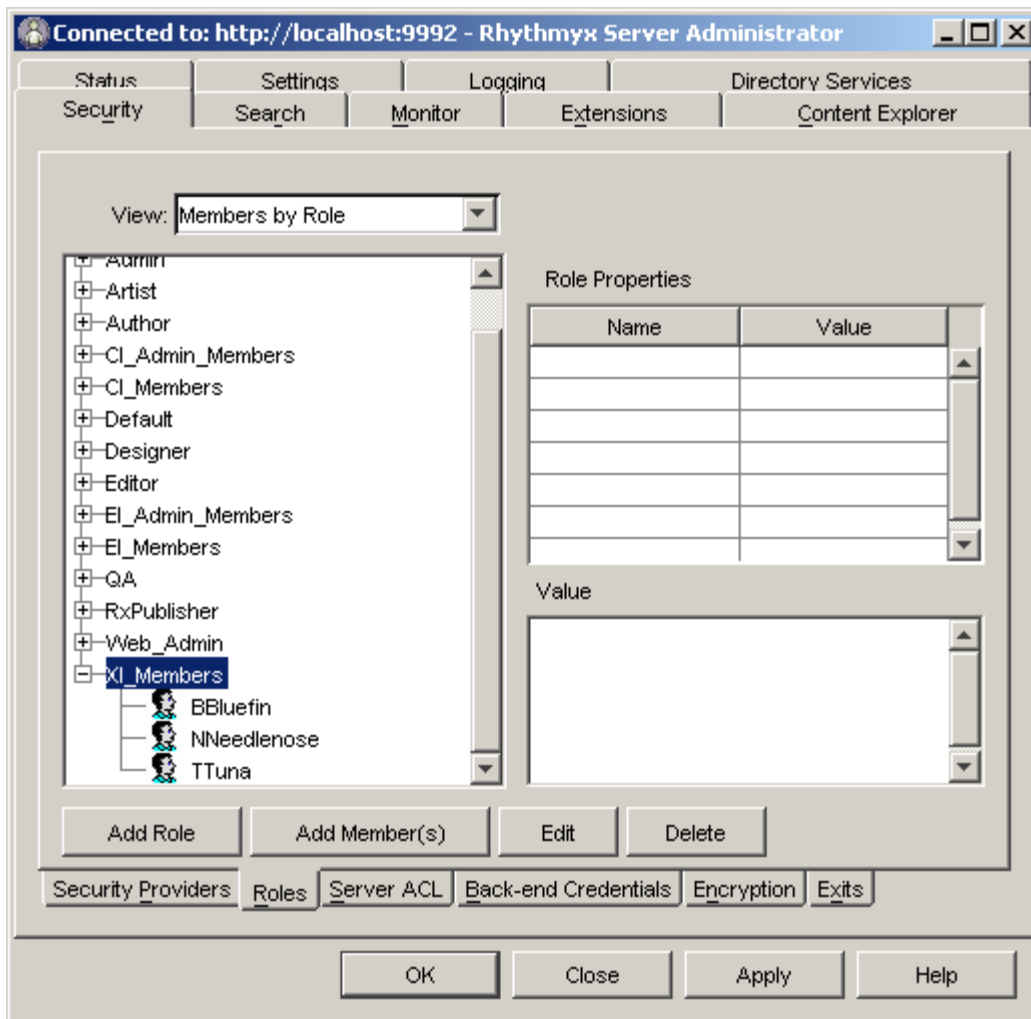


Figure 83: Roles Tab with Bobby Bluefin, Nancy Needlenose, and Tiara Tuna added to the XI_Members Role

8 Click the **[Apply]** button to apply your changes to the server.

Repeat the process to add Nancy Needlenose and Tiara Tuna to the Author Role, and to add Bobby Bluefin to the Admin 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.

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, 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 and you use the default Tomcat Web application server for the Publisher, you will want to secure the Tomcat instance by changing default ports, users, and passwords.

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 FastForward for Web Content Management*, and that you included these configurations when you deployed your implementation.

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 84: 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/rxs_Home_cas/p
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 85: Express Investments Site Properties Modified for a Windows Production Server 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_authtype=
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 86: 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, particularly if you implement SSL (the Secure Socket Layer) to communicate between the Rhythmyx server and the Publisher. Since the Publisher is located on the production Web server, 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 Secure the Tomcat instance in the remote publisher, including modifying default user names and passwords, as well as any other system safeguards you want to implement on this application.
- 3 Configure the publisher on the Rhythmyx server.
- 4 Configure SSL.
- 5 Update the Express Investments Site registration to point to the correct locations on the production Web server.

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.

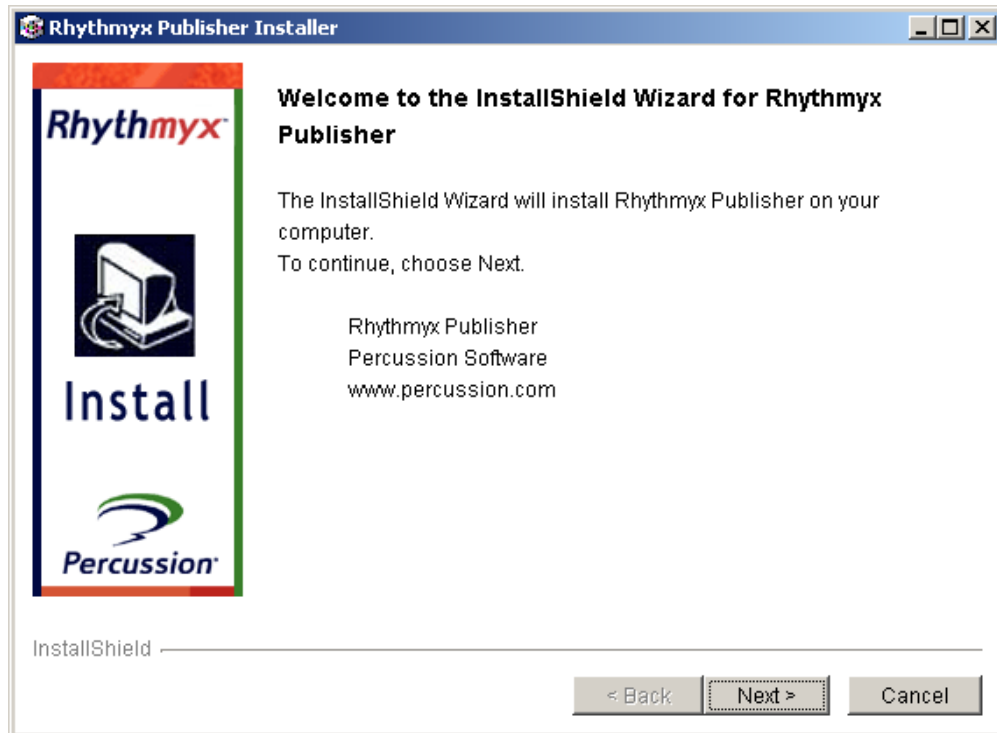


Figure 87: Remote installation wizard Welcome Dialog

- 3 Click the [Next] button.

The installation wizard displays the License Agreement dialog.

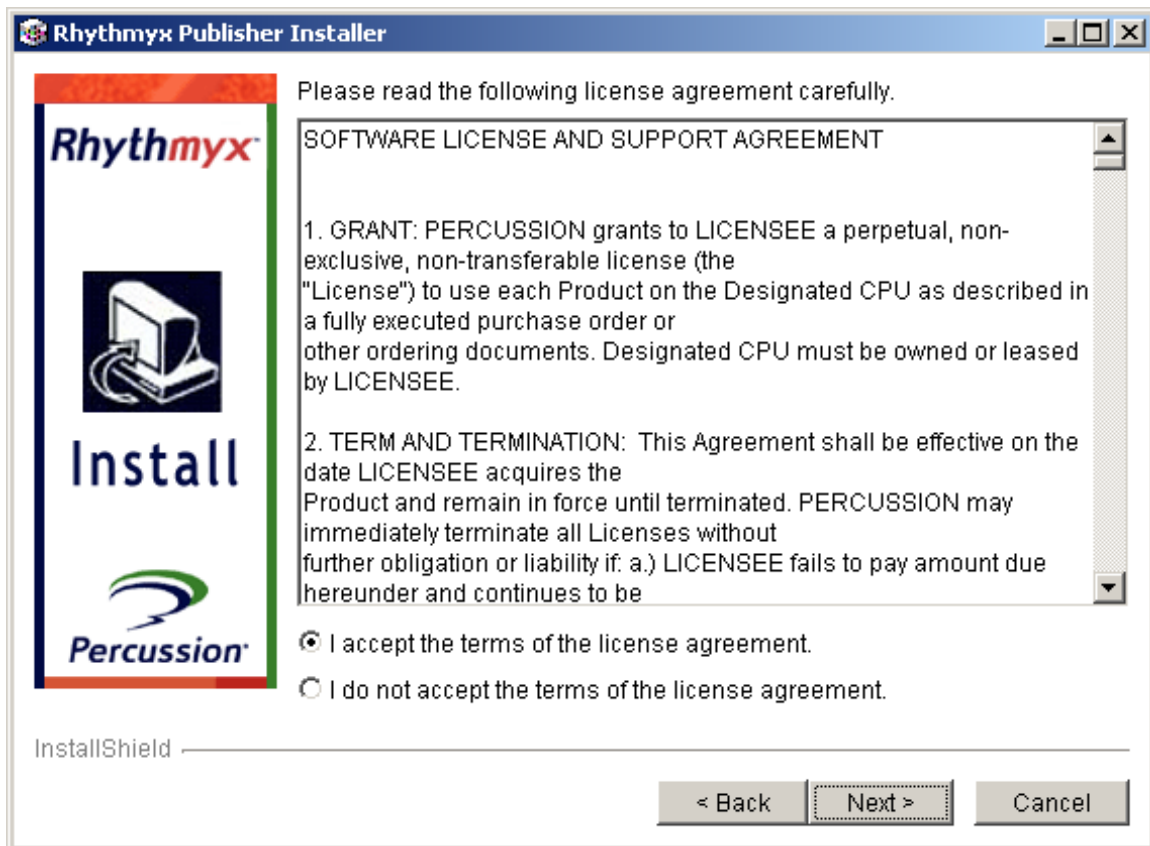


Figure 88: Publisher remote installation wizard License dialog

- 4 Click the [Next] button.

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

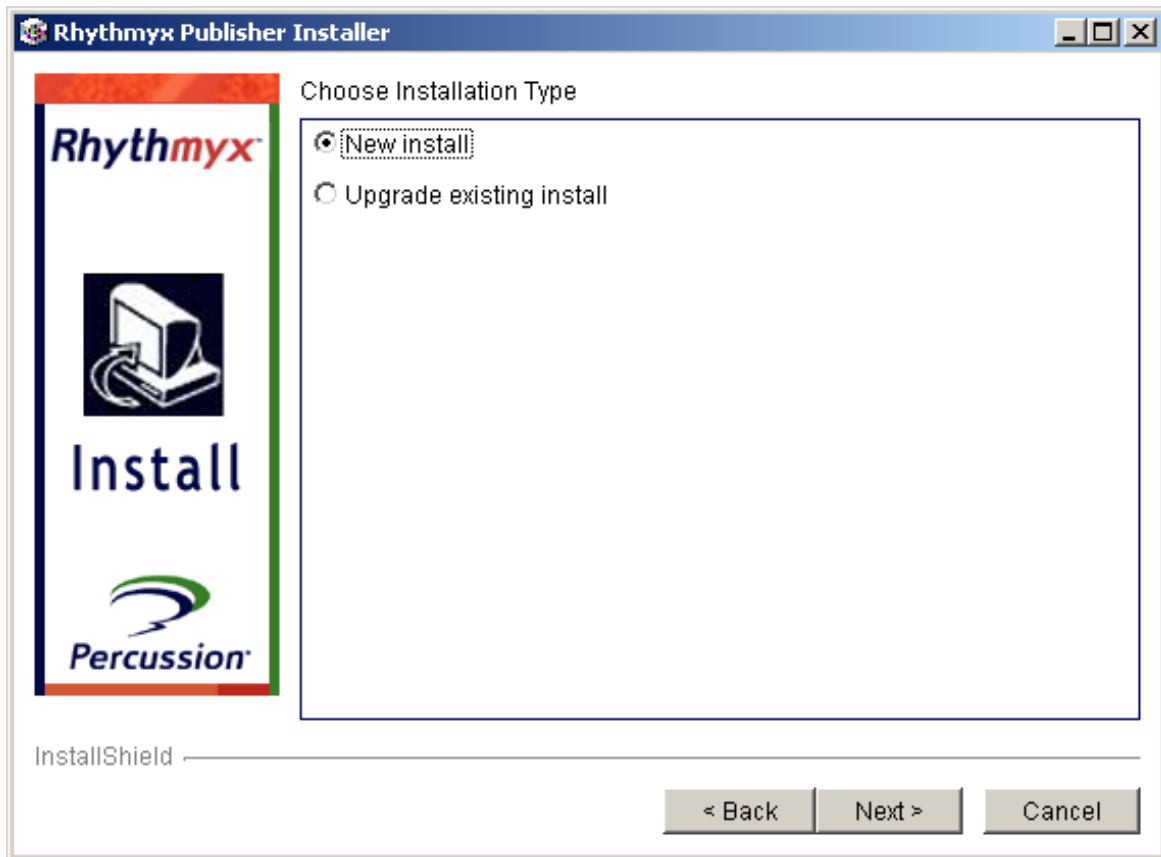


Figure 89: Remote Publisher installation wizard Installation Type dialog

- 6 Click the [Next] button.

The installation wizard displays the Installation Directory dialog.

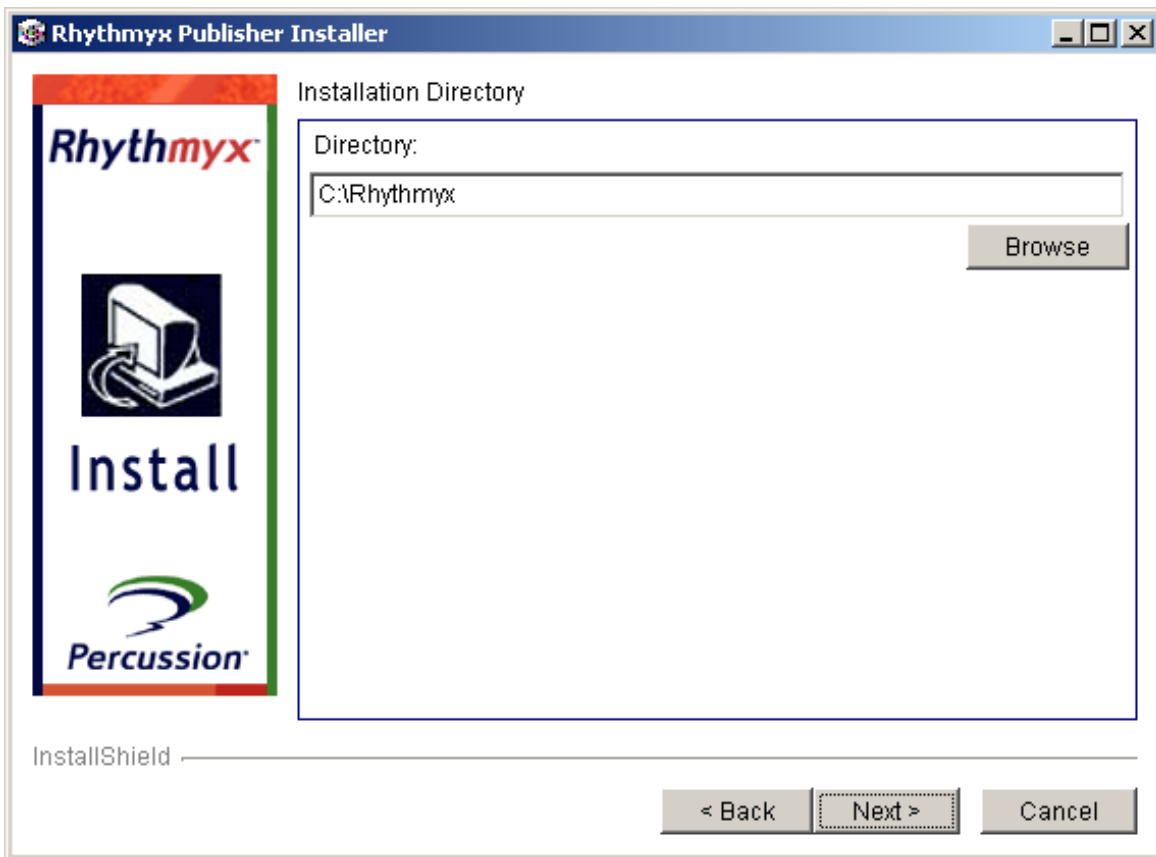


Figure 90: Remote Publisher installation wizard Installation Directory dialog

- 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.

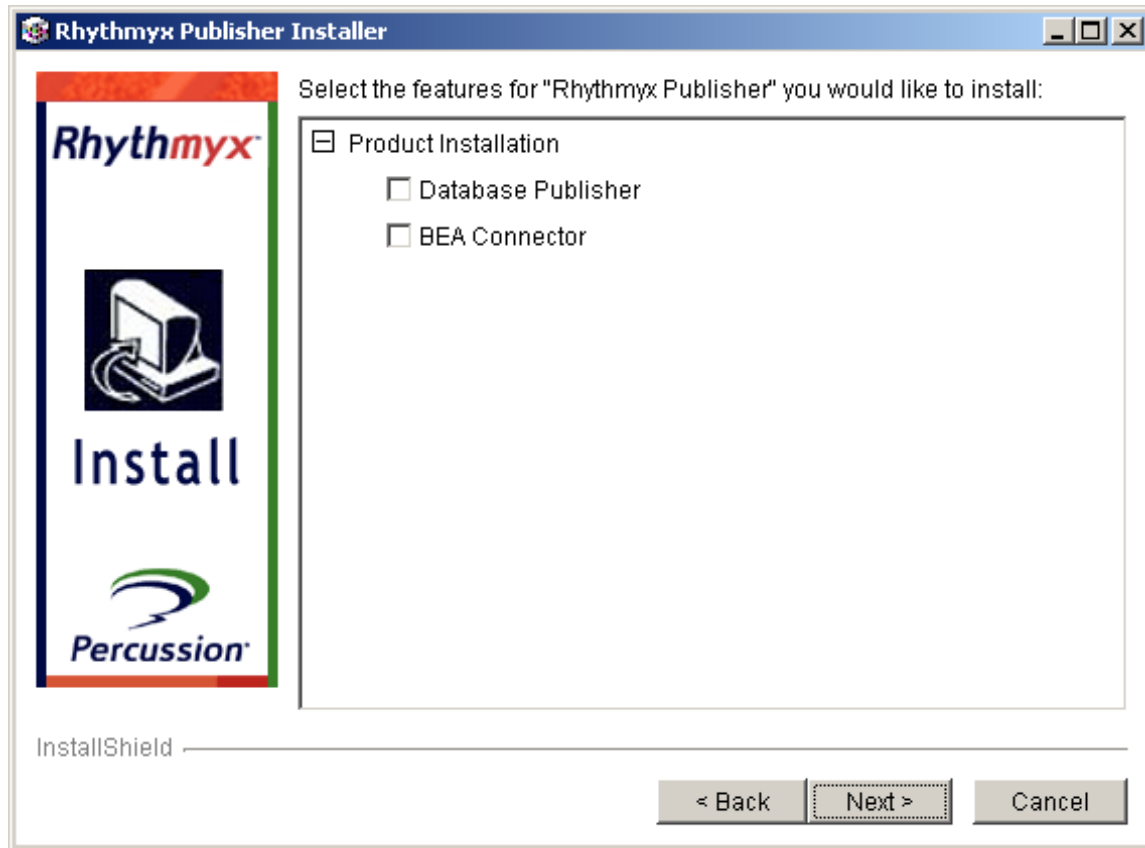


Figure 91: Remote Publisher installation wizard Select Features dialog

- 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 Tomcat Web Applications dialog.

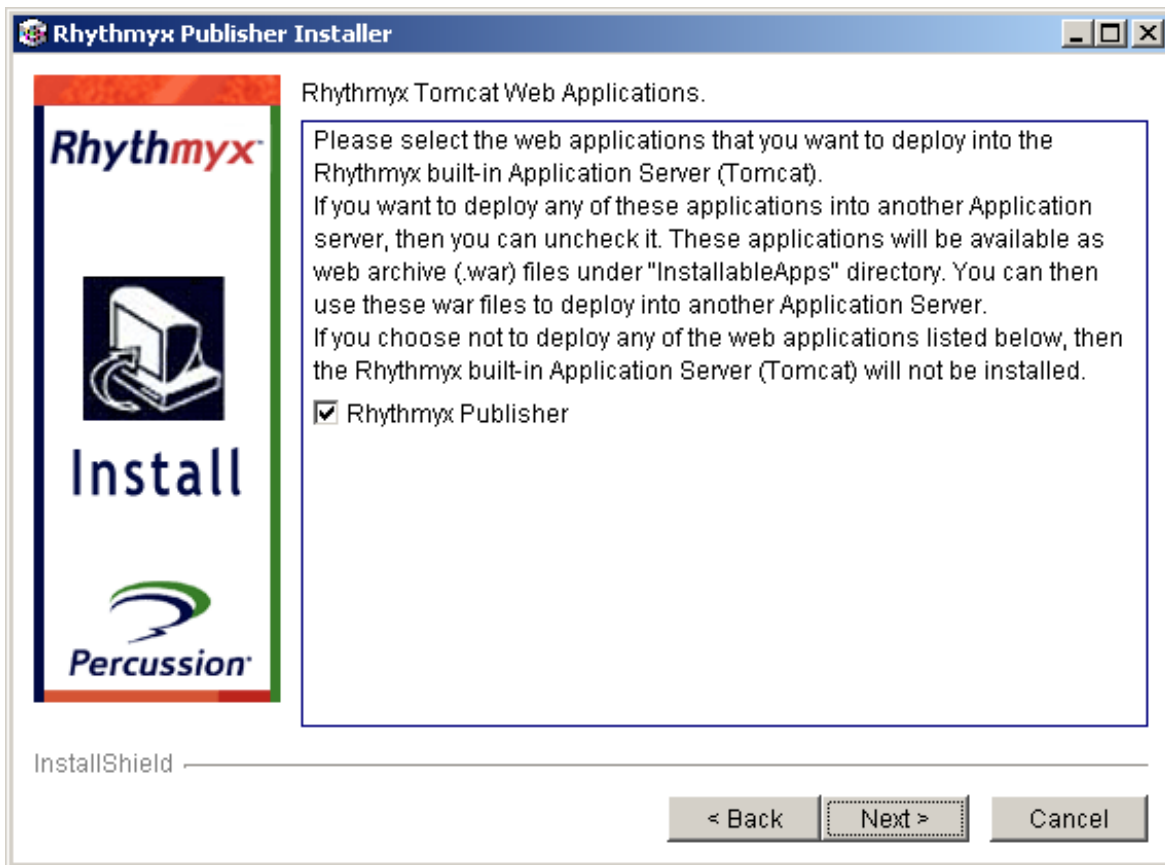


Figure 92: Remote Publisher installation wizard Tomcat dialog

- 9 The only option available on this dialog is **Rhythmyx Publisher**. Leave this option checked. If you uncheck this box, neither the Tomcat Web application server nor the Rhythmyx Publisher will be installed. Click the [**Next**] button.

The installation wizard displays the Rhythmyx Application Server Properties dialog.

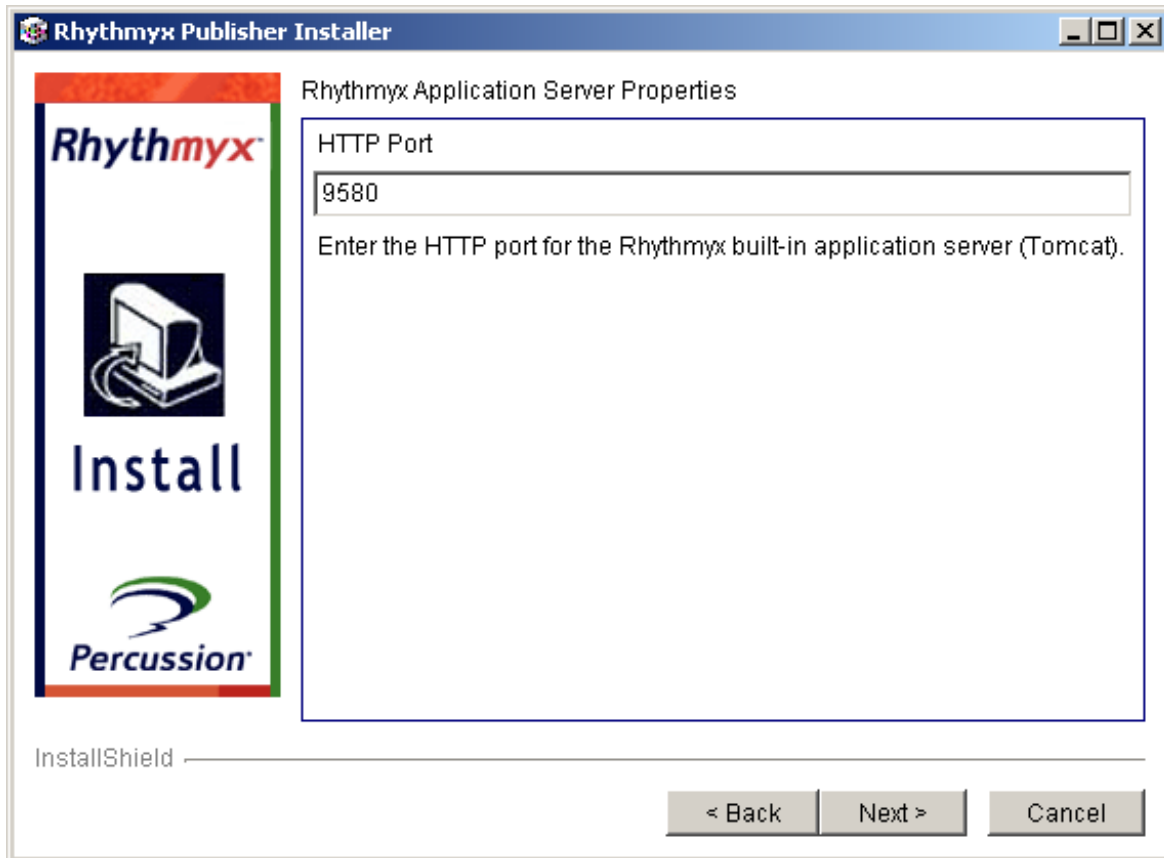


Figure 93: Remote Publisher installation wizard Tomcat Properties dialog

- 10 The default port for the Web application server is 9980. Change the value in the **HTTP Port** field to 9580. Click the **[Next]** button.

The installation wizard displays the Application server Windows service name dialog.

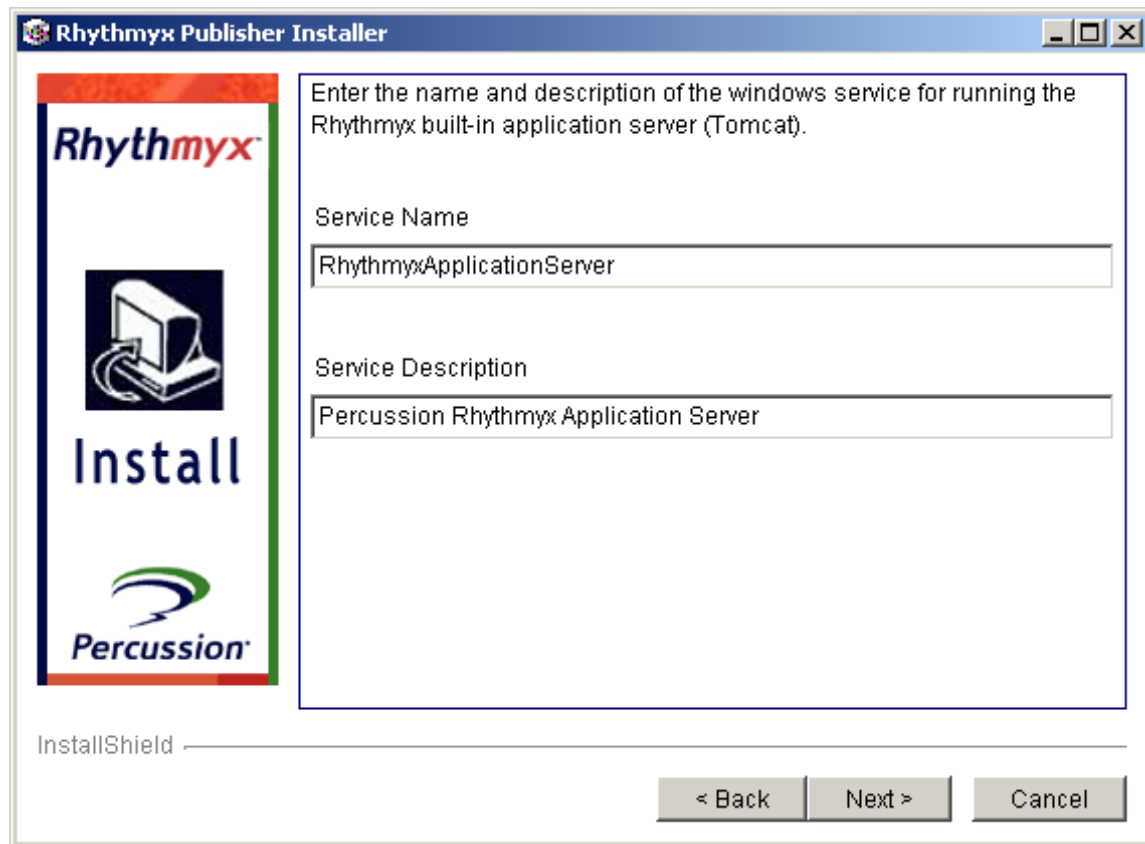


Figure 94: Publisher Remote installation wizard Windows Service dialog

- 11 Change the **Service Name** to *ExpressInvestementsPublisher*. Change the **Service Description** to *Express Investments Publisher Service*. Click the [Next] button.

The installation wizard displays the installation summary dialog.

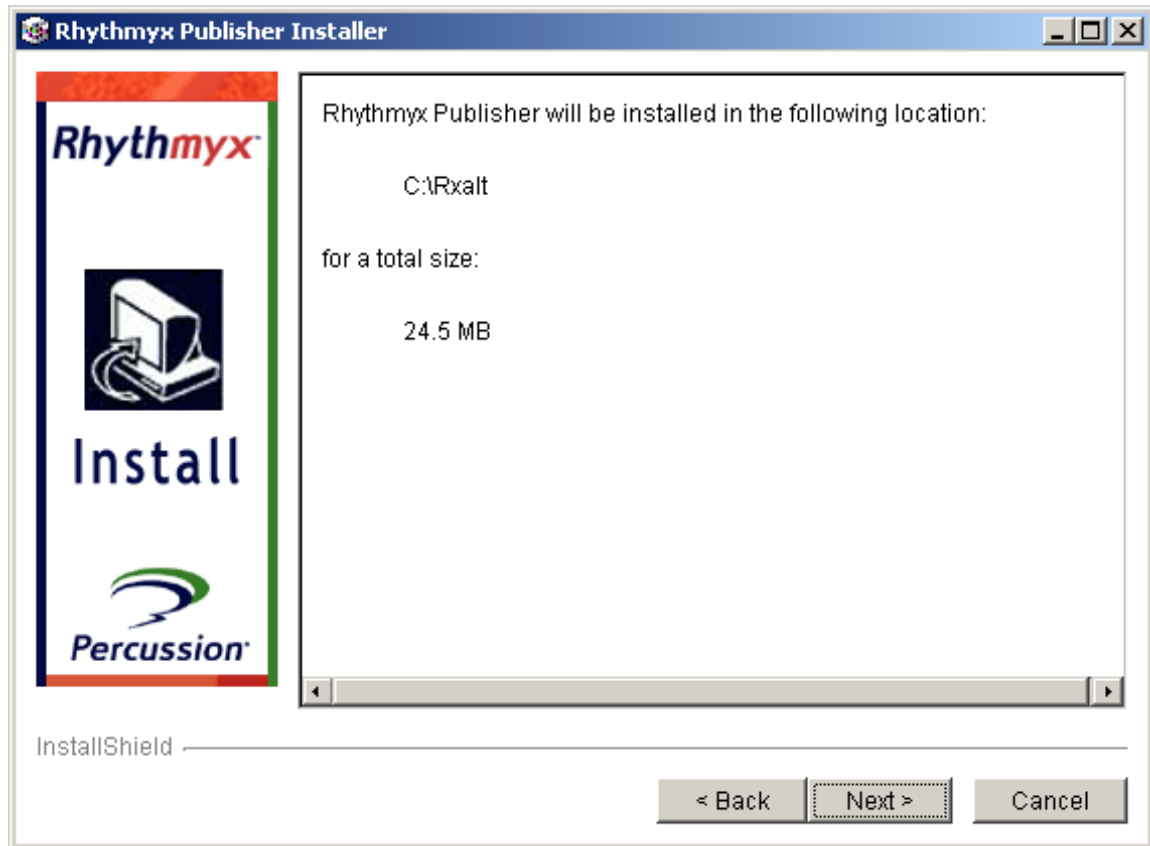


Figure 95: Remote Publisher installation wizard Launch Install dialog

- 12 Click the [Next] button to launch the installation.
- 13 When the installation is complete, the installer displays the readme. Review the readme, then click the [Next] button.
- 14 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`

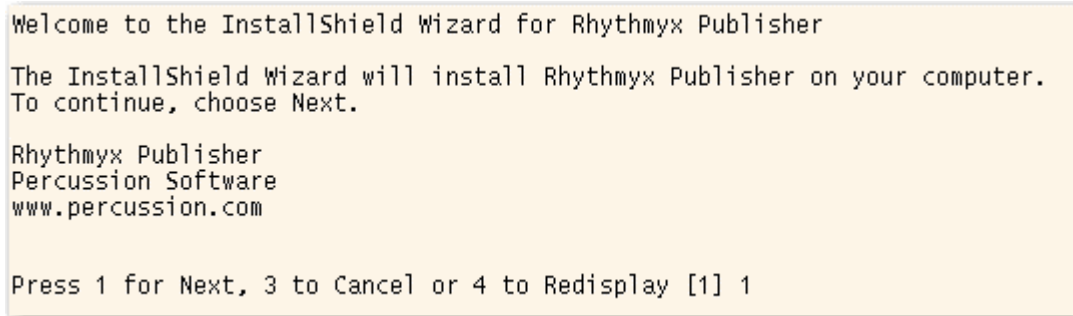
NOTE: If you receive a message about insufficient disk space, create a temporary directory under the install user's home directory called `tmp`.

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

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

```
$ sh PublisherSetupConsole.sh -is:tmpdir /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 96: 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 97: 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 98: 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 99: 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 100: 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 101: 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 102: 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
  2. [ ] BEA Connector
Other options:
  0. Continue installing
Enter command [0] 0
```

Figure 103: Publisher Options

- 13 Enter 1 and press Enter to install the Rhythmyx Publisher in the Tomcat web application server. If you are using an application server other than Tomcat, enter 2 and press Enter to continue. (If you enter 2 at the prompt, the installer skips over the steps shown below that relate to the web application server.) If you choose not to install the Publisher into Tomcat (by selecting 2 at the prompt), Tomcat is not installed.

NOTE: If you want to deploy the Publisher into a web application server other than Tomcat, you can use the appropriate web archive (.war) file in the Rhythmyx/InstallableApps directory to do so. Follow the application server vendor's documentation if you need assistance.

```
Rhythmyx Tomcat Web Applications.

  1. Yes
  2. No

Install Rhythmyx Publisher [2] 1
```

Figure 104: Installing Publisher in Tomcat Application Server

- 14** Accept the default of 9980 as the port for the Rhythmyx application server.

```
Rhythmyx Application Server Properties

HTTP Port

HTTP Port [9980]

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

Figure 105: Change Rhythmyx Application Server Default Port

- 15** 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 106: Unique Port Number Warning

- 16** 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 107: Publisher Installation Location Prompt

- 17 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. When configuring SSL we add an additional parameter to enable SSL communication between the Rhythmyx server and the remote publisher. 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 Quail
*IP Address	255.255.255.85
Port	9580
Status	Active
CMS User Name	rxpublisher
CMS Password	demo
Publisher User Name	
Publisher Password	
<input type="button" value="Save"/> <input type="button" value="Cancel"/>	

Figure 108: 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.

Edit Publisher

Publisher(id): Express Investments Publisher(303)

*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	<input type="text" value="Active"/> ▼
CMS User Name	<input type="text" value="rxpublisher"/>
CMS Password	<input type="password" value="*****"/>
Publisher User Name	<input type="text"/>
Publisher Password	<input type="password"/>

Configuration Parameters
Add User Param

	Name	Value	Description
✘	debug	true	test debug
✘	filesystem	com.percussion.publisher.client.PSFilePublisherHandler	test filesystem
✘	ftp	com.percussion.publisher.client.PSFtpPublisherHandler	test ftp
✘	statusurl	/Rhythmyx/sys_pubSupport/pubstatus.xml	test statusurl

Figure 109: Express Investments Publisher with Configuration Parameters

Implementing SSL to Secure Publishing (Optional Procedure)

Implementing SSL (the Secure Socket Layer) to ensure secure communication between the Rhythmyx server and the publisher is not required, but it does enhance the security of your system.

NOTE: Prior to implementing SSL, you might want to learn more about it. Available resources include the following books:

- Stephen A Thomas, *SSL and TLS Essentials: Securing the Web* (Wiley, ISBN 0471383546)
- Eric Rescorla, *SSL and TLS: Designing and Building Secure Systems* (Addison Wesley, ISBN 0201645983)

Implementing SSL requires security certificates on your system. You can obtain a security certification from a recognized certificate authority, such as VeriSign or Thawte, or you can create and sign your own certificate. Note that using a certificate from a certificate authority simplifies the process of implementing SSL because the root certificate should already be recognized, so you will not need to cross-certify your certificates. If you self-certify, on the other hand, you will need to cross-certify your certificates. For the purposes of this exercise, we will be using self-certification.

To implement secure publishing via SSL:

- 1** Create and self-certify a public/private keypair on the Rhythmyx server.
- 2** Create and self-certify a public/private keypair on the publisher Web application server.
- 3** Export a certificate from the Rhythmyx server.
- 4** Import the Rhythmyx server certificate into the cacerts file on the Web application server.
- 5** Export a certificate from the Web application server.
- 6** Import the Web application server certificate into the cacerts file on the Rhythmyx server.
- 7** Set up SSL on the Rhythmyx server.
- 8** Enable SSL on the Web application server.
- 9** Create a Publisher registration to the remote publisher, and add the sslport configuration parameter.

Creating and Certifying a Public/Private KeyPair

The Rhythmyx JRE includes a keytool that you can use to create, sign, and manage certificates. Note that this keytool is a command-line tool, although graphical user interfaces are available to make using it simpler.

When creating the server keypair:

- We will name it FFServer.
- We will use the keypassword RXFFWCM.
- We will use the storepassword EIHome.
- We will name the certificate file FastForwardCertificate.

To create a public/private keypair in the Rhythmyx server:

- 1 Change to the <Rhythmyxroot>/JRE/bin directory.
- 2 Enter the following command to create the certificate and keystore file:


```
keytool -genkey -alias FFServer -keyalg RSA -dname
"CN=Sparrow,OU=FastForward,O=EnterpriseInvestments" -keypass FFWCM
-storepass EIHome -keystore FastForwardCertificate.keystore
```

 Keytool creates the keystore file in the <Rhythmyxroot>/JRE/bin directory.
- 3 Enter the following command to certify the certificate:


```
keytool -selfcert -alias FFServer -keypass RXFFWCM -storepass
EIHome -keystore FastForwardCertificate.keystore
```

 If keytool returns without listing a usage message, you have self-certified the certificate successfully.

Repeat this process on the Web application server to create and self-certify a certificate for that server.

Exporting a Certificate

We will export the Publisher certificate to a file called FFServer.csr.

To export the certificate from the FastForward Rhythmyx server, run the following command:

```
keytool -export -alias FFServer -keypass FFWCM -storepass EIHome -
keystore FastForwardCertificate.keystore -file FFServer.csr
```

When the command completes successfully, keytool returns the following message:

```
Certificate stored in file <FFServer.csr>
```

The file FFserver.csr will be stored in the <Rhythmyxroot>/JRE/bin directory.

Repeat this command on the Web application server (with appropriate changes to alias, passwords, and file names) to export a certificate for that server.

Setting Up SSL on the Rhythmyx Server

We will configure the Rhythmyx server to use the default SSL port, 9443. You must shut down the Rhythmyx server before modifying these properties or they will not take effect.

To set up SSL on the Rhythmyx server:

- 1 In the Rhythmyx root directory, run `RhythmyxServerPropertiesEditor.exe` (or `RhythmyxServerPropertiesEditor.sh` in Unix).
- 2 Rhythmyx displays the Server Properties Editor.

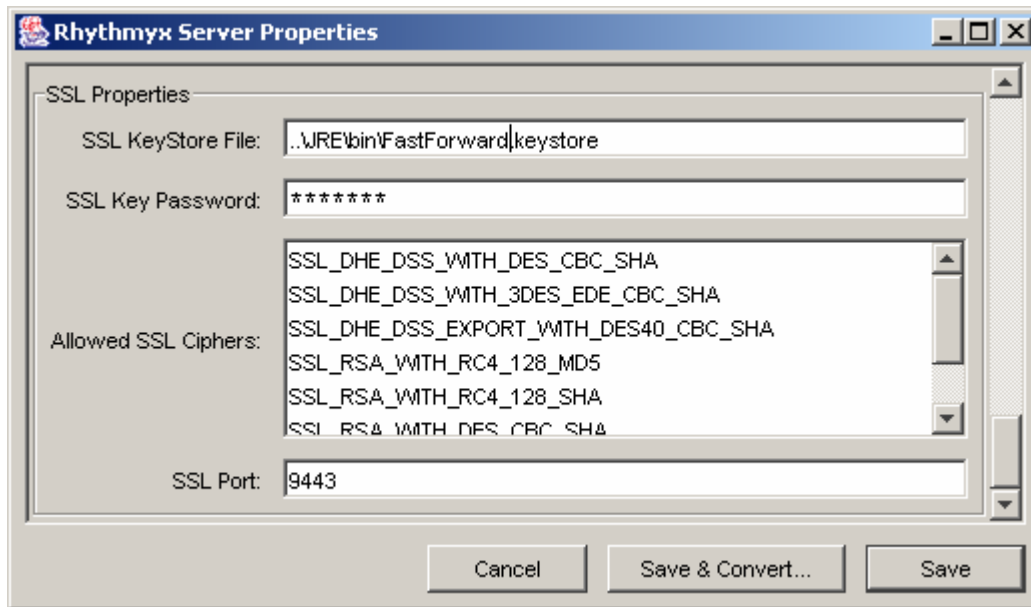


Figure 110: Server Properties Editor showing SSL Properties

- 3 In the **SSL Keystore File** field, enter `..\JRE\bin\FastForwardCertificate.keystore`.
- 4 In the **SSL Keystore Password** field, enter `FFWCM`.
- 5 The value in the SSL Port field defaults to 9443, so there is no need to change it.
- 6 Click the [**Save**] button.
- 7 Restart the Rhythmyx server.

To test the SSL configuration on the Rhythmyx server, start a browser, and attempt to log in using the Secure Socket Layer (starting the URL with "https" rather than with only "http").

`https://sparrow:9992/Rhythmyx`

Your browser will ask if you want to make a secure connection, and then will proceed as if you are logging in to Rhythmyx without security. If you log in successfully, SSL is configured correctly on the Rhythmyx server.

Importing a Certificate into a Server

Before you can import the certificate to the Web application server, you must move a copy of it to the Web application server's JRE/bin directory (C:\Rhythmyx\AppServer\JRE\bin).

To import the certificate into the Web application server, run the following command:

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

If the command runs successfully, keytool returns the following message:

```
Certificate was added to keystore.
```

Use the same command to import the certificate from the Web application server into the Rhythmyx server, making appropriate changes to alias, passwords, and file names.

Enabling SSL on the Publisher Web Application Server

SSL properties are defined in the server configuration file (server.xml) of the Tomcat server, but are commented out. To enable SSL on the Web application server, we must uncomment this code.

On Quail, stop the Tomcat Web application server then open the file C:\Rhythmyx\AppServer\conf\server.xml. Find the following code:

```
<!-- Define a SSL HTTP/1.1 Connector on port 9943 -->
  <!--Connector
        port="9943"
        maxThreads="150" minSpareThreads="25"
maxSpareThreads="75"
        enableLookups="false" disableUploadTimeout="true"
        acceptCount="100" scheme="https" secure="true"
        clientAuth="false" sslProtocol="TLS" />

-->
```

Uncomment this code. You must also add the following attributes to the <Connector> element:

- **keystoreFile**
This attribute specifies the path to the keystore file we created on the publisher Web application server.
- **keystorePass**
This attribute specifies the password of the keystore file we created on the publisher Web application server.

Assuming we named the keystore file on the Publisher Web application server *FFPublisher* and gave it the password *FFWCMPublisher*, the <Connector> element would be:

```
<Connector
        port="9943"
        maxThreads="150" minSpareThreads="25" maxSpareThreads="75"
        enableLookups="false" disableUploadTimeout="true"
        acceptCount="100" scheme="https" secure="true"
        clientAuth="false" sslProtocol="TLS"
keystoreFile="FFPublisher"
```

```
keystorePass="FFWCMPublisher" />
```

Updating the Publisher Registration to Use SSL

In order to connect to the remote publisher, we need to define a publisher registration for it. We need to add the `sslport` configuration parameter to specify the port the Rhythmyx server to which the Rhythmyx server should send the HTML requests when communicating with the remote publisher via SSL. We will add the parameter to the *Publisher registration created earlier* (see "[Registering and Configuring the Remote Publisher](#)" on page 104).

To update the Publisher configuration:


- 1 Start a browser and log in to Content Explorer.
- 2 Click the Publishing tab.
- 3 On the Publisher tab, in the left navigation, under Publishers, click the [By Name](#) link. Rhythmyx displays the Publisher Editor.
- 4 Click on the [Express Investments Publisher](#) link.
- 5 Rhythmyx displays the Edit Publisher page for the Enterprise Investments Publisher with the default configuration parameters:

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="*****"/>		
Publisher User Name	<input type="text"/>		
Publisher Password	<input type="password"/>		
<input type="button" value="Save"/> <input type="button" value="Cancel"/>			
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 111: Enterprise Investments Publisher with Default Parameters

- 6 Click the [Add User Param](#) link. Rhythmyx displays the Edit Config Parameter page.

- 7 In the **Name** field, enter *sslport*. (NOTE: You must enter the value exactly as specified. If you capitalize any letters, Rhythmyx will not recognize it, and will not connect to the publisher via SSL.)
- 8 In the **Value** field, enter *9943*.
- 9 In the **Description** field, enter *Port for SSL Publishing*.



Edit Config Parameter	
*Name	sslport
Value	9943
Description	Port for SSL Publishing
Save	Cancel

Figure 112: SSL Configuration Parameter for Express Investments

- 10 Click the [**Save**] button to save the configuration parameter,

- 11 Rhythmyx saves the parameter and returns you to the Enterprise Investments Publisher registration page.

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	<input type="text" value="Active"/>	
CMS User Name	<input type="text" value="rxpublisher"/>	
CMS Password	<input type="password" value="*****"/>	
Publisher User Name	<input type="text"/>	
Publisher Password	<input type="password"/>	
<input type="button" value="Save"/> <input type="button" value="Cancel"/>		
Configuration Parameters		Add User Param
Name	Value	Description
<input checked="" type="checkbox"/> sslport	9943	Port for SSL Publishing
<input checked="" type="checkbox"/> debug	true	test debug
<input checked="" type="checkbox"/> filesystem	com.percussion.publisher.client.PSFilePublisherHandler	test filesystem
<input checked="" type="checkbox"/> ftp	com.percussion.publisher.client.PSFtpPublisherHandler	test ftp
<input checked="" type="checkbox"/> statusurl	/Rhythmyx/sys_pubSupport/pubstatus.xml	test statusurl

Figure 113: Express Investments Publisher Registration with SSL Parameter

- 12 Click the [Save] button to save your changes.

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.

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 the Batch File for Scheduled Publishing

To modify the batch file for scheduled publishing:

- 1 On the server Quail, find the file `Rhythmyx\AppServer\bin\ScheduledPublication.bat`. The file should resemble the following code:

```
cmd /K ..\JRE\bin\java -cp ../webapps/RxServices/WEB-INF/lib/
rxpublisher.jar;../webapps/RxServices/WEB-INF/lib/rxmisc tools.jar;
com.percussion.publisher.runner.PSRemotePublisher localhost 9880
301
```

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

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 ScheduledPublishing.bat with the name XIFull.bat.
- 3 Use a simple text editor, such as Notepad, 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.bat should resemble the following code:

```
cmd /K ..\JRE\bin\java -cp ../webapps/RxServices/WEB-INF/lib/
rxpublisher.jar;../webapps/RxServices/WEB-INF/lib/rxmistools.jar;
com.percussion.publisher.runner.PSRemotePublisher Sparrow 9992 324
```

```
rxpublisher demo yes
```

- 4 Save XIFull.bat.

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 `ScheduledPublishing.sh`. The file should resemble the following code:

```
../JRE/bin/java -cp .. /webapps/RxServices/WEB-INF/lib/rxpublisher.jar:
../webapps/RxServices/WEB-INF/lib/rxmistools.jar:
../JRE/lib/ext/jsse.jar:
../JRE/lib/ext/jnet.jar:
../JRE/lib/ext/jcert.jar
com.percussion.publisher.runner.PSRemotePublisher localhost 9880 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

Parameter Order	Parameter Name	Description	Default Value	Update Value To
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 ScheduledPublishing.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.bat should resemble the following code: The actual code should resemble the following:

```
../JRE/bin/java -cp .. /webapps/RxServices/WEB-INF/lib/rxpublisher.jar:
../webapps/RxServices/WEB-INF/lib/rxmistools.jar:
../JRE/lib/ext/jsse.jar:
../JRE/lib/ext/jnet.jar:
../JRE/lib/ext/jcert.jar
com.percussion.publisher.runner.PSRemotePublisher 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/remotepublisher.sh
- 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!

Index

A

- Adding Content to Your Production Content Management System • 118
- Adding Users to Rhythmyx Roles • 77

B

- Building Multiple Deployment Archives for a Customized FastForward Implementation • 10

C

- Changing the Default Server Access Control List • 82
- Creating a Directory Connection Security Provider • 73
- Creating a Windows Scheduler Job to Run the Publishing Batch File • 110
- Creating and Certifying a Public/Private KeyPair • 102
- Creating Multi-Server Manager Archives in the Development Environment • 7
- Creating the Batch File for Scheduled Publishing • 109
- Creating the Publishing Schedule in cron • 113
- Creating the Shell Script for Scheduled Publishing • 111

D

- Defining a Directory for a Directory Services Configuration • 66
- Defining a Directory Set for a Directory Services Configuration • 68
- Defining a Role Provider for a Directory Services Configuration • 70
- Defining an Authentication for a Directory Services Configuration • 64
- Defining Security Providers • 60

E

- Enabling SSL on the Publisher Web Application Server • 104
- Exporting a Certificate • 103

G

- Going Live • 117

I

- Implementing a Backend Table Security Provider • 70
- Implementing a Directory Connection Security Provider • 61
- Implementing a Tiered Rhythmyx Environment • 4
- Implementing a Web Server Security Provider • 73, 76
- Implementing a Windows NT Security Provider • 75
- Implementing Security in the Production Environment • 59, 83
- Implementing SSL to Secure Publishing (Optional Procedure) • 101
- Importing a Certificate into a Server • 104
- Installing a Production Server in Solaris/Oracle • 39
- Installing a Production Server in Windows • 20
- Installing a Remote Publisher in a Solaris Environment • 94
- Installing a Remote Publisher in a Windows Environment • 90
- Installing Implementation Multi-server Manager Archives on the Production Server • 51
- Introduction • 3

L

- LDAP Configuration • 62

P

- Preparing the Production Server • 19
- Process Overview • 5
- Publishing to a Mapped or Mounted Drive • 86
- Publishing to a Remote Rhythmyx Publisher • 90
- Publishing to a Remote Web Server Using FTP • 89
- Putting Rhythmyx into Production • 120

Q

- Quality Assurance Testing the Production Environment • 115

R

- Registering and Configuring the Remote Publisher • 99, 105

Registering Your Development Server • 8, 10, 51, 52

Replacing the Default Users with New Users • 83

S

Setting Up Publishing in the Production Environment • 85

Setting Up Scheduled Publishing in the Production Environment • 109

Setting Up Scheduled Publishing on a Unix Production Server • 111

Setting Up Scheduled Publishing on a Windows Production Server • 109

Setting Up SSL on the Rhythmyx Server • 103

Simple Example of Archive Creation • 10, 52

Simple Example of Archive Installation • 52

T

Testing the Directory Connection Security Provider • 74

Training Users on Rhythmyx • 119

U

Updating Default Security Settings • 82

Updating the Express Investments Site Registration • 107

Updating the Publisher Registration to Use SSL • 105