FUNAMBOL

Installing and Configuring a DS Server

BETA VERSION 6

Legal Information

Contact Information

CONTENTS

CHAPTER 1

Getting Started

What do you really need to know? For starters, Funambol server installers come in two distinct packages:

- A server-only package for use on an operational application server
- An all-components-included package for use on a previously unused host

Why two packages? Each package allows you to download and install just what you need. If you are managing an extensive network and want to add a Funambol *Data Services* server to an operational application server, you'll choose the server-only package. This allows you to install just the DS server, and then efficiently set it up for real-world use—including links to existing databases (Oracle, Domino, Exchange) for user information and data.

However, if you want to evaluate the Funambol server's operations before committing, and you have a local host that isn't in use already, you'll choose the full "bundle". This package includes all the rquired software resources and a set of accessories that let you try out the server before committing to a full-scale installation/configuration.

(You should know that the "bundle" installation provides you with a fully functional DS server, and if your host computer is open to out-of-network connections, you now have a Funambol system ready for real-world use.)

In fact, you may want to download the "PIM & Email Bundle", then download the companion user guide *Funambol DS Server Test Drive*. This guide takes you through a low-scale server installation then lead you through evaluation— including two synchronization scenarios:

- Using a "mobile device" emulator or using your current copy of Outlook
- Using a real SyncML device, through a live Internet connection, plus your currrent copy of Outlook

This guide will take you through the complete installation and configuration, assuming you have decided to install and set up a Funambol DS server, along with all the options.

All that's left is to get started. To that end, the contents of this installation/configuration guide detail all of the DS Server setup procedures for each package, for use by both Windows and Linux administrators.

Preparing a Host Computer

OS-specific versions are available for each Funambol DS server package: one for Windows and one for Linux. This section details the software and hardware requirements for a successful installation of each package (which have overlapping environmental requirements.)

■ Reviewing the basic (minimum) system requirements

Windows-based host	Pentium 4 CPU, running at 1.8GHz
	Windows 2000 Professional or Windows XP Professional
	80 MB of free disk space (for "PIM & EMail bundle")
	768 MB memory
Linux-based host	Pentium 4 CPU, running at 1.8GHz
	No Linux version or publisher restrictions, at present
	80 MB of free disk space (for "PIM & EMail bundle")
	512 MB memory
Per-user capacity	Allocate 1.5 Mb of drive space per potential user (allowing for 1,000 contacts and 1,000 events)

■ Preparing for a "PIM & Email" bundle installation

If your plan is to evaluate the DS server before engaging in a real-world deployment, you should install this ready-to-run DS server package on a little-used local host computer. Or, if you have a network with a few users, and would like to offer data synchronization that encompasses contacts and calendar information, this bundle will more than suffice (if you are not planning links to any external data sources such as email servers.

This bundle includes these key components:

- Funambol DS server, v6.x
- Apache Tomcat 5.5 or later
- Java Runtime Environment, 1.5.x
- Hypersonic (JDBC-compliant) database
- Funambol Administration Tool
- Software accessories for use in a DS Server data-synchronization "test drive" simulation

ALERT: If you prefer to use a JDBC-compliant database other than Hypersonic, you need to install both the database and the required driver. [-**More info?**-]

■ Preparing for a DS Server-only installation

If your plan is to install just the DS server component on an operational application server, this package will supply the basics. The following software should already have been installed and activated on the host:

Java Development Kit	Version 1.5 or later. Verify that the JAVA_HOME environment variable points to the top directory of the JDK.
Application server	Application servers successfully tested with the Funambol DS Server include Apache Tomcat version 5.0.x and JBoss versions 3.0.x, 3.2.x, and 4.0.x. Other servers may prove usable with Funambol, but have not been tested. **TIP:** Verify that the J2EE_HOME environment variable points to the top directory of whatever application server is in use.

2

JDBC-compliant database	The use of a database by the Funambol DS Server requires that you have created a database with the appropriate permissions for connecting, creating, deleting, reading and writing tables. You also need the JDBC driver for the database, and the connection URL and login information.
Other?	**Text** to come

Obtaining the Funambol "Bundle" Package

To download a free copy of the full Funambol server "PIM & Email bundle" package from the Funambol web site, follow these steps:

1 Start your web browser and connect to the Funambol web site (www.funambol.com).

2 On the Funambol homepage, click the **Open Source** tab.

3 In the **Open Source** tab options bar, click the **Downloads** button.

4 Among the download options; look for the **Download Server Bundles** area.

5 Review the available packages (Windows and Linux) in this area and click an OS-specific "PIM & Email Bundle" link to start the download.

6 When the Download a File page appears, fill in the registration form, and click **Submit and Continue**.

- Or, take advantage of a click-through link ("No thanks...") to open the next page.

7 Click the file-name link to start the download.

8 Once the download is complete, you can now start the installation process, as detailed in "Installation on a Windows Host Server" on page 5 or "Installation on a Linux Host Server" on page 6.

Obtaining the Funambol DS Server Package

To download a free copy of the individual Funambol DS server installation package from the Funambol web site, follow these steps:

1 Start your web browser and connect to the Funambol web site (www.funambol.com).

2 On the Funambol homepage, click the **Open Source** tab.

3 In the **Open Source** tab options bar, click the **Downloads** button.

4 Among the download options, look for the **Download Individual Product Modules** area.

5 Review the "Useful Individual Packages" list (Windows and Linux) in this area and click an **Funambol DS Server** link to start the download.

6 When the Download a File page appears, fill in the registration form, and click **Submit and Continue**.

- Or, take advantage of a click-through link ("No thanks...") to open the next page.

7 Click the file-name link to start the download.

8 Once the download is complete, you can now start the installation process, as detailed in "Installing a DS Server on a Windows or Linux Host" on page 9

CHAPTER 2

Installing the "PIM & Email" Server Bundle

After downloading a copy of the Funambol "PIM & Email" server installation bundle (as detailed in the previous chapter), you can run the installer on either a Windows or Linux host. Each installation is described in step-by-step detail in the following sections:

- "Installation on a Windows Host Server" on this page
- "Installation on a Linux Host Server" on page 6

Installation on a Windows Host Server

1   After downloading the package, double-click the installer icon.

- You may also choose to bypass the download and install the Funambol package from the remote server.

2   When the Funambol Setup wizard window appears, review the introductory text.

3   Click **Next** to proceed.

4   When the *License Agreement* window appears, review the public license (HPL) text.

5   If you agree to the terms in the license, click the checkbox by **I accept...**.

6   Click **Next** to proceed.

7   When the *Choose Install Location* window appears, don't change the default destination folder (unless you have strong preferences).

8   Click **Next** to proceed.

When the *Choose Start Menu Folder* window appears, don't change the default selection (unless you have strong preferences).

9   Click **Install** to proceed.

The Installing Status window records each phase of installation.

When the final *Completing Funambol Setup* window appears, make sure the **Start Funambol Server** checkbox is checked, then click **Finish**.

A terminal window briefly appears, recording the status of the server startup.

10   If a Windows Security Alert dialog box appears, to inform you that a particular Java program will (by default) be blocked, click **Unblock**, which enables the server startup to continue.

Server startup should normally be complete in under a minute's time.

■ Verifying the server startup

To verify that the Funambol DS server is started, open the system tray and look for the server status icon as shown here.
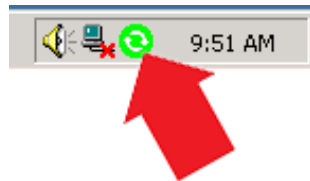
The server status icon should be green if the server was successfully started. If no status icon appears, follow the steps detailed in the next section ("If the server does not automatically start" on page 6) to manually start the DS server.

Once the server is started, y ou can now proceed to the initial server configuration, as detailed in "About DS Server Configuration" on page 19, and in all following chapters.

■ If the server does not automatically start

If no server status icon appears in the system tray after a couple of minutes, you must manu-ally start the Funambol server. To do so, follow these steps:

1 Click **Start**, and choose **Programs | Funambol | Server | Start**.

   After a brief pause, the system tray icon should appear at this point. The color of the icon represents one of these states:

   • Green – the server is running.

   • Red – the server is stopped.

2 If the Funambol icon is green, you can also start a web browser and connect to this URL:

   • http://localhost:8080/funambol

   A summary web page with Funambol DS Server information appears.

   You can now proceed to the initial server configuration, as detailed in "About DS Server Configuration" on page 19, and in all following chapters.

Installation on a Linux Host Server

This installation requires the use of a terminal window and a shell command line. Have the bundle version number handy (as noted in the downloaded package filename), for use in this procedure. You do not have to log in as root to complete this installation; any admin account has permission for this task.

1 Open a terminal window, if it's not already open.

2 Type the following command:

```
sh funambol-<version number>.bin
```

3 Press **Enter** to proceed.

4 When the license agreement appears, read the text.

5 To accept the terms of the agreement, type **y** (Yes) at the prompt and press Enter.

6 Specify a top-level directory in which to install the bundled software. Otherwise, the installation defaults to this directory:

```
./funambol
```

At the conclusion of installation, you are prompted to start the server.

7 At the prompt, type **y** (Yes) and press Enter.

- If you prefer to delay startup of the server, you can always change to the proper directory (/funambol/ds-server), then run this command at a later time:

```
sh funambol.sh start
```

This concludes the installation. You can now proceed to the initial server configuration, as detailed in "About DS Server Configuration" on page 19 and the following chapters.

■ Verifying the server startup

After you've installed and started the DS server, you can verify its operation by following these steps:

1 Run a "ps" command.

2 When the results appear, grep for "funambol".

3 If a listing is found, the server is in operation.

Setting up Automatic DS Server Startup

As of this edition of the user guide, the Funambol DS Server won't automatically start when you start or restart the host server. Follow these steps to automate server startup.

1 Using a terminal window, copy the startup script into the /etc/init.d directory using the following command:

```
cp /opt/Funambol/tools/bin/funambol.sh /etc/init.d/funambol
```

2 Use a text editor to open the newly copied script.

3 Open the script in a text editor, and change line 4.

EXISTING: BUNDLE_HOME=`(cd ../.. ; pwd)`

POST-EDITS: BUNDLE_HOME=`(cd /opt/Funambol ; pwd)`

This points the script to the absolute location of your installation.

4 Enter this command:

ln -s /etc/init.d/funambol /etc/rc3.d/S30funambol

This creates a symbolic link to your rc3.d directory.

5   To verify that the Funambol DS Server is running, start a web browser and link to this URL:

http://<servername>:8080/funambol.

A DS Server test page should appear.

CHAPTER 3

Installing the DS Server

If you want to install the DS Server by itself onto a working application server, you can do so after downloading the DS Server package (as detailed in "Obtaining the Funambol DS Server Package" on page 3, then following the steps in this chapter. The installation is detailed as a"universal" procedure, with annotations that pertain to Windows or Linux.

Remember to verify that all the required software resources are installed on the host computer, as noted in "Preparing a Host Computer" on page 1.

■ If you have already created a database (Linux installations)

If the application server is already hosting an active MySQL installation, you may encounter problems with your Funambol server-only installation. To forestall problems, use MySQL to define the database *BEFORE* starting installation of Funambol. The database must pre-exist, and the Funambol user must have the proper rights.

Installing a DS Server on a Windows or Linux Host

■ Preparing the installer script

1   Unzip the compressed file. (The default location is ./funambol/ds-server/)

2   Using a text editor, open the install.properties file:

   /funambol/ds-server/install.properties

3   Review the comments (preceded with a #) that clarify each parameter.

4   Locate the line **dbms=** and enter the name of your JDBC-compliant database.

5   Locate each of the following lines and enter the settings appropriate for your database:

   jdbc.classpath=

   jdbc.driver=

   jdbc.url=

   jdbc.user=

   jdbc.password=

6   Save your changes and close install.properties.

7   Verify that your J2EE_HOME environment variable points to the top-level directory where your application server resides.

8   Verify, also, that the JAVA_HOME environment variable points to the top-level directory where the JDK/JRE is stored.

■ Starting the installation

You can now run the server installation script by following these steps:

1   In the terminal window, change to the /funambol /ds-server directory.

2   At the prompt, type the following command:

     bin/install <application_server> **[-For Windows hosts]**

     sh bin/install.sh <application_server> **[For Linux hosts]**

The installation starts, and bypasses any user agreement.

NEED-? Mapping to application server?

3   During the installation, you are prompted whether you want to create/recreate the database. You have two general options:

- If a database already exists, you do NOT want to overwrite it. At the prompt, type **n** (no).
- If no database exists, at the prompt, type **y** (yes).

4   This prompt is repeated several times during installation.

When installation is complete, you can start the server.

5   Change to the proper directory, then run this command:

     sh tools/bin/funambol.sh start

This concludes the installation. You can now proceed to the initial server configuration, as detailed in a separate printed guide, *Configuring a Funambol DS Server*.

■ Verifying the server startup

After you've installed and started the DS server, you can verify its operation by following these steps:

1   Run a "ps" command.

2   When the results appear, grep for "funambol".

3   If a listing is found, the server is in operation.

Upgrading from an Older Version of Funambol DS to Version 6

Text.

Which package to download?

Text.

Version-specific Dependencies

Text

Installing the Funambol Administration Tool

If you are installing the DS server as a stand-alone package on an operational application server, you will also want to download and install the *Funambol Administration Tool*. This GUI-based management application assists you in configuring, monitoring and updating your DS server.

The Administration Tool can be installed on the same host computer as the Funambol DS Server, or installed on another network host. Be sure that you are downloading and installing version 6 of the Administration Tool, if you will be managing version 6 of the DS server.

As of Spring, 2007, there are Administration Tool installers for Windows and Linux, and one in development for Mac OS.

Obtaining an Installer

To download a free copy of the individual Funambol Administration Tool installation package from the Funambol web site, follow these steps:

1 Start your web browser and connect to the Funambol web site (www.funambol.com).

2 On the Funambol homepage, click the **Open Source** tab.

3 In the **Open Source** tab menu bar, click the **Downloads** banner button.

4 Among the download options; look for the **Download Individual Product Modules** area.

5 Review the "Useful Individual Packages" list (Windows and Linux) in this area and click the **Funambol Administration Tool (Windows or Linux)** link to start the download.

6 When the Download a File page appears, fill in the registration form, and click **Submit and Continue**.

  • Or, take advantage of a click-through link ("No thanks...") to open the next page.

7 Click the file-name link to start the download.

8 Once the download is complete, you can now start the installation process, as detailed in the next section

Starting Installation

■ For a Windows host

1 Run the executable installation file.

2 Review the license agreement. To accept the terms, select the checkbox and click **Next**.

3 Accept the suggested Destination Folder:

   \funambol\admin

4 Accept the suggested Program Group:

   \funambol\Funambol Administration Tool

5 At the completion of the installation, you are given the option to view the readme file and to start the tool. For more information, review the separate guide, *Configuring a Funambol DS Server*.

■ For a Unix/Linux host

After downloading (**to where?**) and untarring the installer package for the Administration Tool, you can install it by following these steps:

NEEDS INFO -- Is it a modification of the server-only "install.properties" file tweak, plus script startup? (per Greg)

1 Unzip the compressed file. (The default location is ./funambol/ds-server/)

2 Using a text editor, open the install.properties file:

   /funambol/ds-server/install.properties

3 Review the comments (preceded with a #) that clarify each parameter.

4 **[-???-] Locate the line dbms= and enter the name of your JDBC-compliant database.**

   Are there options we need to note here?

5 **Locate each of the following lines and enter the settings appropriate for your database:**

   jdbc.classpath=

   jdbc.driver=

   jdbc.url=

   jdbc.user=

   jdbc.password=

   Are there more options we need to note here?

6 Save your changes and close install.properties.

7 **Verify that your J2EE_HOME environment variable points to the top-level directory where your application server resides.**

8 **Verify, also, that the JAVA_HOME environment variable points to the top-level direc-tory where the JDK/JRE is stored.**

You can now run the modified server installation script by following these steps:

1 In the terminal window, change to the /funambol /ds-server directory.

2 At the prompt, type the following command:

bin/install <application_server> **[-For Windows hosts]**

sh bin/install.sh <application_server> **[For Linux hosts]**

The installation starts, and bypasses any user agreement.

NEED-? Mapping to application server?

3 During the installation, you are prompted whether you want to create/recreate the database. You have two general options:

• If a database already exists, you do NOT want to overwrite it. At the prompt, type **n** (no).

• If no database exists, at the prompt, type **y** (yes).

4 This prompt is repeated several times during installation.

When installation is complete, you can start the server.

5 Change to the proper directory, then run this command:

sh tools/bin/funambol.sh start

This concludes the installation. You can now proceed to the initial server configura-tion, as detailed in a separate printed guide, *Configuring a Funambol DS Server*.

Stopping and Restarting the DS Server

[-IS THIS NECESSARY?-] -- or TRUE?

Starting and stopping the Funambol DS Server is controlled by how the host application server starts and stops J2EE applications. The following procedures are noted in the assumption that the Funambol DS Server is installed as a standalone application. Therefore, when the Funambol DS Server is stopped, the entire application server is stopped, and when it is started, the entire application server is started. [-**wording**-]

Stopping the Server

■ Bundled Installation [Windows]

You can choose from the following actions to stop the DS server:

- Click **Start** and choose **Programs > Funambol > DS Server > Stop Server**
- Right-click the DS server status icon in the Windows system tray and choose **Stop** from the shortcut menu.

NOTE: If you right-click the icon in the system tray, you can also choose **Exit**. This only terminates the service that lets you see if the server is still running, and does not stop the server. (If a shutdown confirmation dialog box appears, click **OK**.)

■ Unbundled installation [Windows]

The method of stopping the Funambol DS Server depends on the application server.

For JBoss, follow these steps:

1   If the server is running in foreground, press **Ctrl+C**.

2   If this fails, determine the process ID and kill it with an operation system command or tool.

For Tomcat 5.0.x, follow these steps:

1   Open a terminal window and at the prompt, change to the Tomcat directory.

2   Type this command:

```
bin\shutdown.cmd
```

3   This stops the DS server.

■ Bundled Installation [Unix/Linux]

To stop the server, follow these steps:

1   With a terminal window, change to the /funambol directory.

2   Run this command:

```
sh tools/bin/funambol.sh stop
```

3   This stops the DS server.

■ Unbundled installation [Unix/Linux]

1   Open a terminal window, and at the prompt, change to the Tomcat directory.

2   Type this command:

```
bin/shutdown.sh
```

3   This stops the application server, along with the DS server.

Starting the Server

You can start the DS server by following the relevant procedure:

■ Bundled Installation [Windows]

You can choose from the following actions to start the DS server:

- Click **Start** and choose **Programs > Funambol > DS Server > Start**
- Open the Services control panel and "start" the Funambol server.

■ Unbundled installation [Windows]

The method of starting the Funambol DS Server depends on the application server.

For JBoss, follow these steps:

1   If the server is running in foreground, press **Ctrl+C**.

2   If this fails, determine the process ID and kill it with an operation system command or tool.

For Tomcat 5.0.x, follow these steps:

1   Open a terminal window and at the prompt, change to the Tomcat directory.

2   Type this command:

```
bin\shutdown.cmd
```

3   This stops the DS server.

■ Bundled Installation [Unix/Linux]

To start the server, follow these steps:

1   With a terminal window, change to the /funambol directory.

2   Run this command:

   sh tools/bin/funambol.sh start

3   This stops the DS server.

■ **Unbundled installation [Unix/Linux]**

1   Open a terminal window, and at the prompt, change to the Tomcat directory.

2   Type this command:

   bin/start.sh

3   This stops the application server, along with the DS server.

Verifying the DS Server Restart

■ **Windows server**

When you restart the server, the Funambol status icon (two circular arrows) appears in the system tray. The color of the icon indicates the status of the server.

• Green – the server is running.
• Blue – the server is starting, wait for the icon to become green to access the server.

■ **Linux server**

After you've restarted the DS server, you can verify its operation by following these steps:

1   Run a "ps" command.

2   When the results appear, grep for "funambol".

3   If a listing is found, the server is in operation.

Uninstalling the Funambol Server

This chapter shows you how to completely uninstall and delete the entire contents of the Funambol server package from the host computer. If you downloaded and installed any Funambol clients or plug-ins, those are uninstalled in a separate process. [-**Which** is needed-]

For Windows Users

1   To uninstall all of the Funambol server components, click the **Start** button and choose **Settings/Control Panel/Add or Remove Programs**.

2   When this control panel has fully loaded, locate the Funambol entry and click **Uninstall**.

3   When server uninstallation is complete, you can uninstall any Outlook plug-in you might have previously installed.

4   [Optional] When you're finished, restart your computer.

For Linux Users

To delete the Funambol server along with all components, follow these steps.

1   Stop the Funambol DS server, as noted in the previous chapter.

2   Open a terminal window and change to the funambol master directory.

3   Delete the master directory.
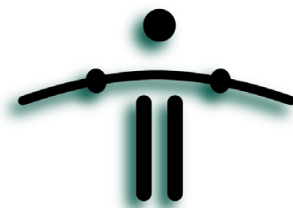
CHAPTER 8

About DS Server Configuration

The remainder of this user guide details the process of configuring key settings on a newly installed Funambol DS Server, and preparing it for use. Each of the basic setup procedures can be completed with the *Funambol Administration Tool*, a GUI-based application that provides efficient access to most of the functions on the Funambol DS Server.

You can use the Administration Tool to perform the following types of tasks, including both "configuration" and "administration":

- Customize all the Funambol DS Server settings
- Add, edit, and delete users, devices, and principals
- Edit the settings installed modules, connectors, and SyncSource types
- Create, edit, and delete SyncSources
- Link Funambol to any external data sources, such as Outlook/Exchange

After you complete the first real configuration task, the IP address change, you or your coworkers can log in to the Admin tool from anywhere on the LAN, provided you have valid admin user accounts and the proper IP address.

REMINDER: the Funambol DS server is basically ready to use "out of the box". Your primary setup workload will be concerned with key configuration edits, but will increase exponentially if you are using Funambol to synchronize users with any external databases, such as email. This may require extensive table mapping, as detailed in the *Administration Guide* (a separate Acrobat publication).

Configuration Task Checklist

After installation of the DS server, you need to complete the following one-time setup tasks. Some tasks can be skipped, depending on your server/network environment. The first list of tasks are detailed in the rest of this publication, in this order:

- Start the Funambol Administration Tool, and log in to the DS server
- Change the "admin" user password
- Create additional admin user accounts [-Optional-]
- Specify the Public IP Address
- Change the Pipeline Manager
- Change the HTTP Server Port
- Change the Database References

- Set up database-access logging

- Customize the built-in DS Logging

- Reassign the Email Officer

- Change Data Transformer Manager config [-Optional-]

The remaining setup tasks are detailed in the separate Acrobat publication, *Funambol DS Server Administration Guide*, and include the following:

- Change Funambol Email Connection settings
  —if linking the DS server to an external mail server

- Change "multiuser" options for all PDI module sources

- Start adding both user records and device records [-Optional-]

- Start linking users and devices as "principals" [-Optional-]

NOTE: If you installed the standalone DS Server package (that does not include the Funambol Administration Tool), you need to complete the Administration Tool installation, if you have not already done so. See "Installing the Funambol Administration Tool" on page 12 for details.

CHAPTER 9

Starting the Funambol Server Administration Tool

To open the Administration Tool window, follow these steps:

1 To start the Funambol Administration Tool if you installed the "PIM & Email Bundle", do one of the following:

- WINDOWS: Click **Start**, and choose **Programs|Funambol|Administration Tool**.

- LINUX: At the prompt, change to /opt /funambol/ and run this command:

  admin/bin/**funamboladmin**

2 To start the Administration Tool if you installed the DS server by itself, do one of the following:

- WINDOWS: Click **Start**, and choose **Programs|Funambol|Administration Tool|Funambol Administration Tool**.

- LINUX: At the prompt, change to the DS server installation directory and run this command:

  admin/bin/**funamboladmin**

The Funambol Administration Tool window appears on-screen.
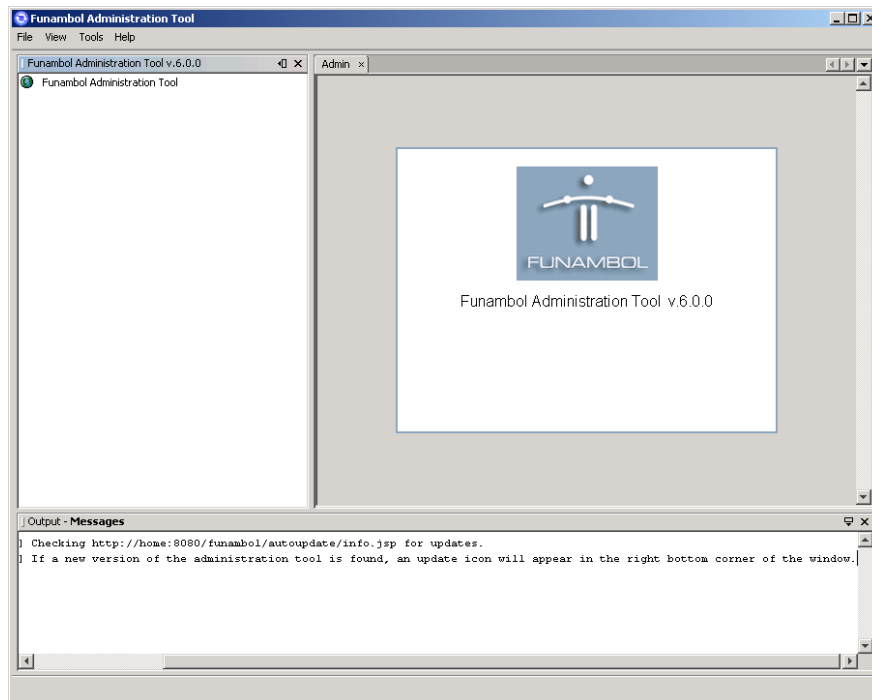
No information will be displayed until you log in with an administrative user ID and password—as detailed in the next section.

[-Question-] What if Funambol server is on a separate host?

Logging into the DS server

1   In the Admin Tool window, choose **File**/**Login**.

• Or, double-click **Funambol Admin Tool** in the Navigation pane.

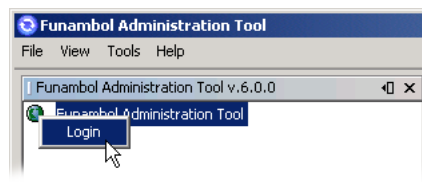• Or, right-click the Funambol Admin Tool item and choose Login.

2   When the Login dialog box appears, (as shown in the following illustration), make no changes to the default settings.
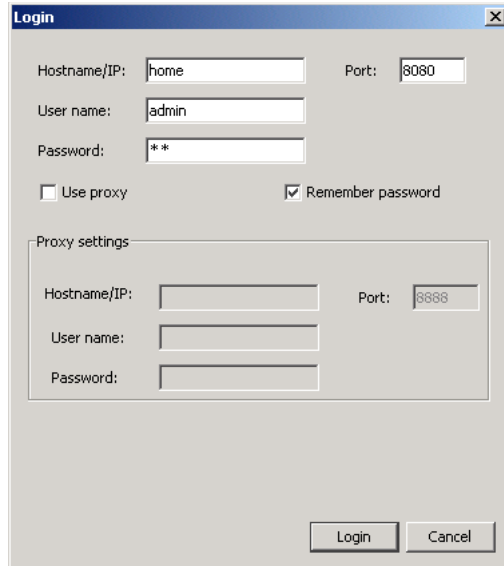
3   With the default entries intact, click **Login**.

Note: the default user name is "admin" and the default password is "sa".

4   After login, the Admin Tool window *Navigation* pane lists your server as the root node of an explorer-like tree that sorts your management options into server settings, users, devices, principals, modules and more.
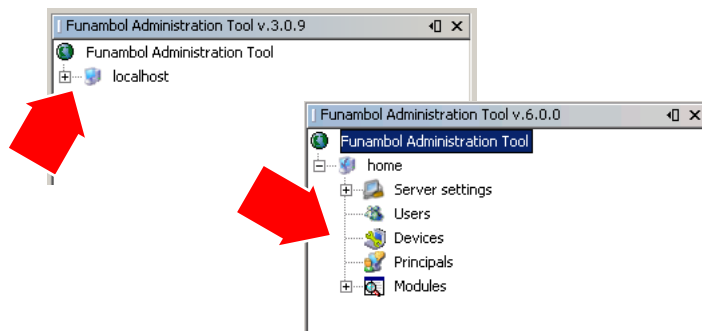
The main window is partitioned into the following panes:
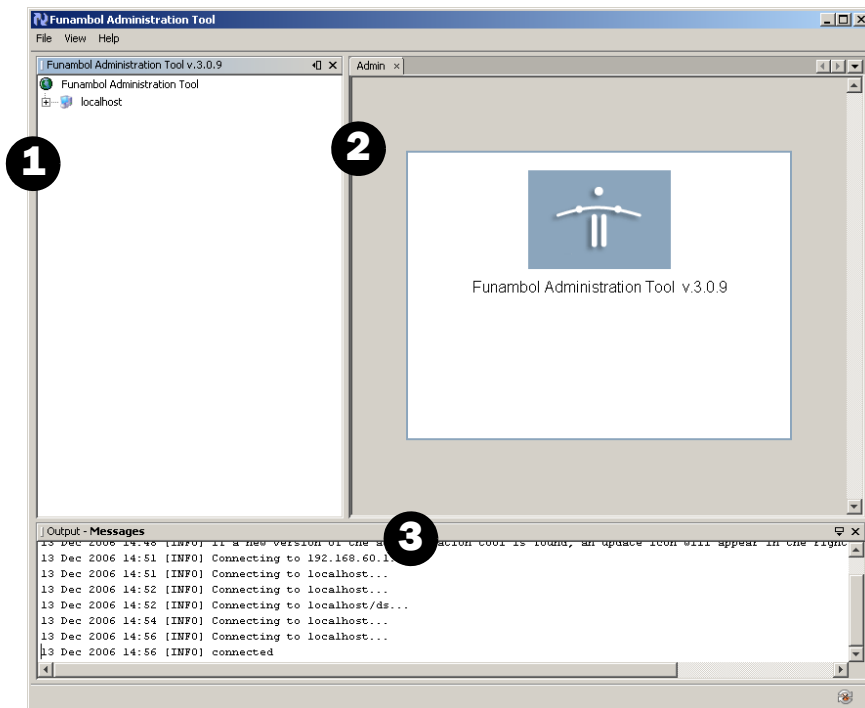
[-1-] — **Navigation**	Lists all the primary workspaces, in which you can monitor and maintain the server, users, devices, principals or modules.
[-2-] — **Data entry**	Use the features in this pane to add, edit, delete or search for the item selected in the navigation pane.
[-3-] — **Output Messages**	This pane displays in-progress status messages relevant to your current task.

5 Your first task is to replace the default admin login information—as detailed in the next section.

Changing the Admin Account Password

After you first log in with the Administration Tool, you should immediately change the default password assigned to the "admin" account, for increased security.

1 In the Admin Tool window, expand the server tree in the Navigation pane, and double-click **Users**.

2   When the Search Users features appears, click in the **Username** field and type "admin"

3   Click **Search**.

The admin account should appear in the results table.

4   Select the admin account and click **Edit**.

The User Details options appear, with key information displayed in editable fields.

5   Type a new, secure password in both **Password** and **Confirm Password** fields.

6   Click **OK** to save and apply the new password.

■ IMPORTANT!

If you don't do the following, the server will automatically log you out within a minute or two.

1 Exit the Administration Tool.

This logs you out of the DS server.

2 Restart the Tool and log in again as "admin"—using your new password.

This verifies the new password text.

For information on creating additional admin user accounts, review the next section.

Creating Additional Administrator User Accounts

If your Funambol server workload justifies the use of more than one system administrator, you can add the needed accounts by following these steps:

1 After expanding the server tree in the Navigation pane, right-click **Users** in the navigation pane and choose **Add User**.
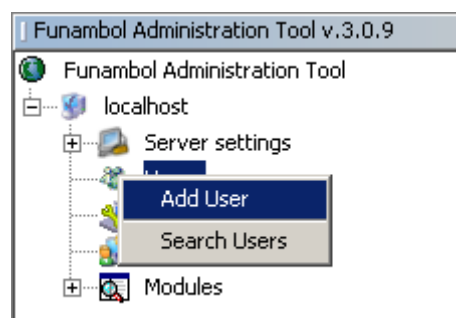
The Add User options appear in the Data Entry pane.

2 Enter the relevant information in the following fields.

Username	Enter a name up to 255 characters in length, using any combination of characters.
	ALERT: User names are case-sensitive.
Password	Enter a unique, secure password.
Confirm password	Re-type the same password.
First Name	[-optional-] Enter the user's first name (not including any middle initials).
Last Name	[-optional-] Enter the user's last name.
Email	[-optional-] The email address the user wants to link to the Funambol server.
Roles	Select a role for the user from the following:
	Choose **User**, if this user is allowed to perform synchronizations with the server. Note that a "user" does not have "Admin" access to the server.
	Choose **Administrator**, if this user is to perform administrative tasks. Note however that an Administrator cannot synchronize data using devices or applications.

3   Click **Add** to save the settings.

A confirmation message appears in the Output-Messages pane.

4   Repeat this procedure to create other needed admin accounts.

5   You can now communicate this admin-user account information to relevant would-be users.

CHAPTER 10

Getting Started with Configuration

After installation is complete, you'll need to complete two sets of setup/configuration, to fully prepare your server for use. The first set of tasks, detailed in this guide (in the next two chapters) consist of system configurations, of replacing default settings with relevant information to your network. The second set of tasks, outlined in a later chapter, involve the entry of user- and device-specific information, or linking your DS server to an external source of such information. Along with any email connection configuration, these tasks should make your server fully ready for use.

To get you started, this chapter provides step-by-step descriptions of the following Funambol DS Server configuration tasks:

Specifying the Public IP Address

The default installation allows extremely limited access to the Funambol DS Server via a local-host address—that permits only direct administrative connections. This section details the changing of the IP address, to allow system users (internal and external) to connect to the DS server for both data synchronization and administration purposes.

1 Having logged into the DS server with the Administration Tool, review the Navigation pane.

2 Expand the server tree and double-click **Server settings**.

3 In the Server Settings panel, locate the **Server URI** property.

4 Enter the IP address or hostname assigned to this service.

5 Click **Save**.

The Output-Message pane displays a confirmation message: "Server configuration saved."

Changing the Pipeline Manager [-Gone ???-]

After the initial installation, the Funambol distribution provides a non-rewriting **PipelineManagerGeneric** server JavaBean, as well as a **PipelineManager** server JavaBean (the default); the latter implements the **syncml-phone** device ID override. This property must be edited, to enable the DS server to recognize real device IDs.

1   Having logged into the DS server with the Administration Tool, review the Navigation pane.

2   Expand the server tree and double-click **Server settings**.

3   In the Server Settings panel, locate the **Pipeline manager** property. [-???-]

4   Locate the following pathway:

com/funambol/server/engine/pipeline/PipelineManager.xml

5   Add the term "generic" to this text string, as shown below in bold type:

com/funambol/server/engine/pipeline/PipelineManager**Generic**.xml

6   Click **Save**.

The Output-Message pane displays a confirmation message: "Server configuration saved."

■ Understanding the Pipeline Manager

The Pipeline Manager constructs and manages input and output pipelines. It is configured with separate lists of components that build up the input and output pipelines. A message-processing pipeline modifies incoming and outgoing messages, i.e., the message is modified before it goes into the synchronization engine, and the message returned by the synchronization engine is changed before it is sent to the client.

The duties of the Pipeline Manager are summarized as follows:

- Create input and output pipelines at initialization
- Provide a way to start the input or output pipeline
- Coordinate the execution of the components in the pipelines
- Keep the "message processing context" (the state of one pipeline execution)

Input and output pipeline components are called *synclets*. For additional details on the Pipeline Manager, see the *Funambol Architecture* manual, available in Acrobat format.

Changing the HTTP Server Port Entry

[-Optional-] By default, the Funambol DS Server listens on port 8080. If your network is set up with a different port assigned to this type of connection, you can add the correct entry by editing the DS server configuration as noted here.

■ Tomcat Example (for a non-bundled server installation)

1   Use a text editor to open this file:

<TOMCAT_HOME>\conf\server.xml

2 Locate the following lines:

```
<!-- Define a non-SSL Coyote HTTP/1.1 Connector on port 8080 -->
  <Connector port="8080"
      maxThreads="150" minSpareThreads="25" maxSpareThreads="75"
      enableLookups="false" redirectPort="8443" acceptCount="100"
      debug="0" connectionTimeout="20000"
      disableUploadTimeout="true"
```

3 Modify the **Connector port** property ("8080") to the desired value.

4 Save the changes, and close the file.

5 Restart the server. (See "Stopping and Restarting the DS Server" on page 15 for details.)

■ **Tomcat Example (for a bundled server installation)**

In the bundled version, server.xml is stored in the <FUNAMBOL_HOME>\tools\tomcat\conf\ directory, and contains additional comment lines shown below:

```
<!-- Define a non-SSL Coyote HTTP/1.1 Connector on port 8080 -->
<!-- Funambol comment: don't modify or remove this Funambol comment!
##### -->
<Connector port="8080"
    maxThreads="150" minSpareThreads="25" maxSpareThreads="75"
    enableLookups="false" redirectPort="8443" acceptCount="100"
    debug="0" connectionTimeout="20000"
    disableUploadTimeout="true" />
<!-- Funambol comment: don't modify or remove this Funambol comment!
###### -->
<!-- Note : To disable connection timeouts, set connectionTimeout
value to 0 -->
```

These lines comment out the above example and are used by the Funambol icon in the system tray.

■ **JBoss Example (for an unbundled server installation) [-NO MORE JBOSS?-]**

1 Use a text editor to open each of these files, one at a time:

deploy/http-invoker.sar/META-INF/jboss-service.xml

deploy/jbossweb-tomcatXX.sar/META-INF/jboss-service.xml

2 In both files, change any occurrence of **port 8080** to the desired value.

3 Save the changes.

4 Restart the DS server.

Changing the DS Database References

The "PIM & Email" bundled distribution includes the Hypersonic database; however, you can use any JDBC-compliant database. We recommend that you use a database you are familiar with, or in a production environment, a database that is most suitable. If you do have another database, you'll need to change how the DS server refers to it, so that the server can link to the database.

Follow either of these methods to change the specific reference to your preferred database:

- Modify the install properties file (recommended)
- Modify the application server specific database configuration

Each of these is detailed separately in the following sections.

■ Modifying the Install Properties File [-VALID?-]

This will necessitate a server restart at the end of the procedure. (ALERT: This duplicates the procedure on p. 9 of the Installation Guide-!!!-)

1 Use a text editor to open the install.properties file.

Note: Commented lines are preceded by the pound (#) sign.

2 Locate the line dbms= and specify the name of your JDBC-compliant database.

3 Locate the following lines and specify values appropriate for your database:

```
jdbc.classpath=
jdbc.driver=
jdbc.url=
jdbc.user=
jdbc.password=
```

4 Save your entries and close `install.properties`.

5 Verify the following:

- That your J2EE_HOME environment variable points to the top-level directory where your application server resides, and

- That the JAVA_HOME environment variable points to the top-level directory where the JDK/JRE resides.

6 To run the server installation script, open a terminal window and type the following at the prompt:

bin\install <application_server>	[on a Windows host]
bin\install jboss	[on a Windows host]
sh bin/install.sh <application_server>	[on a Linux host]

7 You will be prompted several times as to whether you want to create/recreate the database.

8 Type **y** (yes) and press Enter at each prompt.

9 Then what?

31

10   Verify the server is running by starting a browser and linking to this URL:

http://<server>:<port>/funambol

A summary page for the Funambol DS Server should appear on-screen.

■ **Modifying the Application Server-Specific Database Configuration**

After the Funambol DS Server is installed, the configuration of database access is delegated to the application server. The FunambolDS Server uses the JNDI name **jdbc/fnblds** to acquire a connection from the application server.

For example, with JBoss 3.2, the database connection settings are stored in this location:

J2EE_HOME/server/funambol/deploy/funambol-ds.xml.

BUT What about Tomcat? -

To configure a new data source, follow these steps:

1   Use a text editor to open the existing file.

2   Change the following values:

<connection-url>

<driver-class>

<user-name>

<password>

3   Save the changes and close this file.

In addition, the application server must be redirected to the location of the JDBC driver classes. To do so,

1   use a text editor to open this file:

funambol/bin/start.bat/sh

2   Edit the driver classpath to reflect the environment variable **JBOSS_CLASSPATH**.

3   RESTART THE SERVER-???-

Refer to your application server's documentation for details on JDBC configuration.

Extra: Setting up Database Access Logging [-delete?-]

The Funambol DS Server does not currently create a log of database access directly from the classes that use JDBC. [Is that enough info?] This omission can be resolved with P6Log, an open source application that logs all JDBC transactions in a seamless manner for the target application. [Huh?]

You must configure the application server to use the P6Spy JDBC driver instead of the currently used database driver. P6Spy is configured to access the real database. [Oh?]

For information on installation and configuration of P6Spy, (along with downloadable installers) visit this web site:

http://www.p6spy.com/documentation/index.htm.

The following procedure shows an example of how you can configure the Funambol DS Server to use P6Spy:

1 Download and install P6Spy.

2 Copy the file **spy.jar** into `\jre\lib\ext` (in the Java home directory).

3 Copy the file **funambol-sqllog.jar** from `\lib` (in the Funambol DS Server home directory) into the \jre\lib\ext directory (in the Java home directory). This file supplies an adapter that allows P6Spy to communicate with the standard Java logging system.

4 Append the DS Server home directory `\lib\logging` file directory pathway [-**???**-] to the application server CLASSPATH (this allows P6Spy to access its configuration file **spy.properties**).
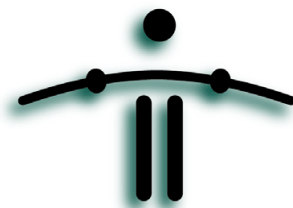
Continuing the Basic Setup

This chapter covers the remaining initial configuration tasks, and outlines the user- and device-entry process that you need to complete to make your server ready for use. The contents of this chapter include the following:

Reassigning the Email Officer

After the initial installation, a key Server setting, "Email Officer", controls how users are authenticated and then permitted access to server functions. You have two xml file options that can be designated as the Officer:

- The default Officer is "UserProvisioningOfficer.xml". Use this file if your DS server does not have access to a mail server or other external source of user authentication.
- The alternate Officer is "EmailOfficer.xml". Use this file if your DS server has access to a mail server or other user-authentication source. This greatly simplifies your user-connection setup; your users can set up device sync profiles using their email login entries for authentication and access to Funambol. When they first connect, the system validates their identity, then auto-generates the needed user, device and principal records.

To change the default to "EmailOfficer.xml", follow these steps:

1	Expand the tree and double-click **Server Settings** to display the options in the Data Entry pane.

2	Look under the **Engine** category for **Officer**.

3	Change the existing entry to match this text (highlighted in bold type):

   com/funambol/server/security/**EmailOfficer.xml**

4	Click **Save** to save this setting.

   A confirmation message appears in the Output-Messages pane.

Configuring the Email Connector [*MAJOR REVISIONS*]

[-IS THIS STILL A TASK?-] If you switch the Email Officer to "emailOfficer.xml", you'll need to configure the DS server with access to the external data source (example: mail server) used in authenticating Funambol user connections.

[- THERE'S A MAJOR TWO-PHASE PROCEDURE IN EFFECT, RIGHT? --]

1 In the Navigation pane, expand the server tree this way:

[Server settings] > Modules > email > FunambolEmailConnector

2 Double-click this item.

The Email Connector options appear in the Data Entry pane.

FIGURE 11-1

3 Customize these options to match your system requirements:

Mail Server	Enter the URL of the outgoing mail server.
Protocol	Choose POP or IMAP.
Port	Enter the port of the mail server used by the just-changed officer.
SSL	Check (or uncheck) this option to control whether SSL protocol is used.
Keystore Path	If SSL is checked, enter the path to the Java keystore.
Keystore Passphrase	If SSL is checked, enter the password phrase for the Java keystore.
Funambol DataSource	Specify the data source (pathway?) used by the Inbox Listener for a caching system.

| Filter Activation | Check (or uncheck) this option according to your filter usage preferences. |

4 Click **Save** to save and apply the settings.

A confirmation message appears in the Output-Messages pane.

ALTERNATE PROCEDURE: Configuring the Email Connector

Text to come...

1 Expand the Navigation pane tree as follows:

Modules > email > FunambolEmailConnector

2 Double-click **FunambolEmailConnector**

The Email Connector options appear in the workpane, divided into two collections of options:

• Public Mail Servers

• Accounts
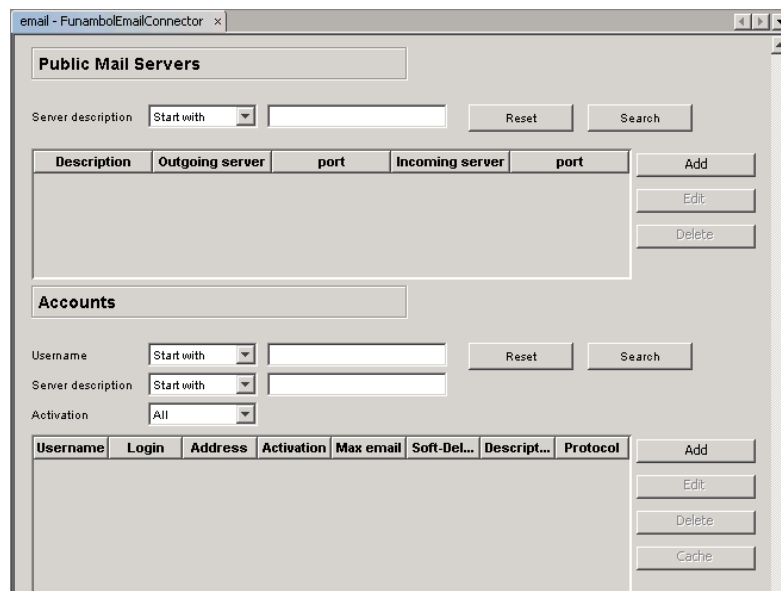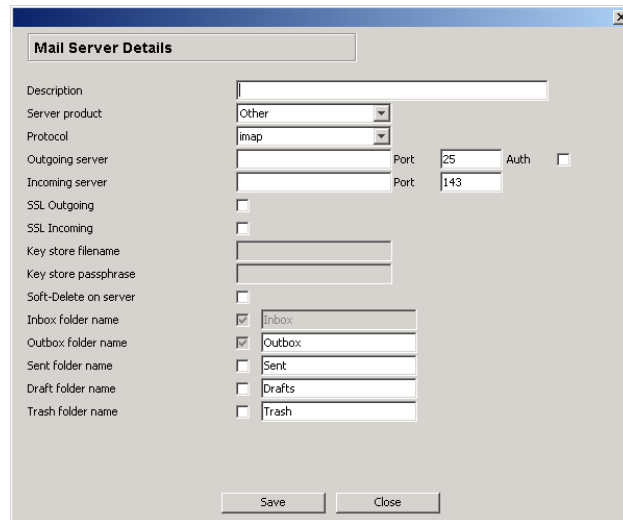
[-???-] What tasks would one do?

■ Task: Creating Public Mail Server records

1 Click Add.

The Mail Server Details dialog box appears.
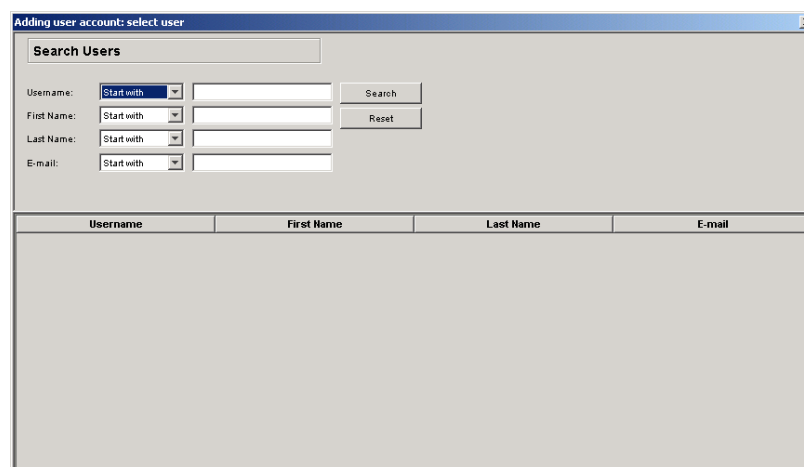

FIGURE 11-3

2   Fill it in (with something!) and click **Save**.

3   When a (confirmation) dialog box appears, click **OK**.

4   Repeat as needed.

■ Task: Creating Accounts (if needed-???)

(Search features don't work at top level.)

1   Click **Add**.

The Search Users dialog box appears.

FIGURE 11-4

2   Use the search features to find matching user records (from already-extant records).

FIGURE 11-5

3 Double-click the exact user match.

This same dialog box now displays a set of User Account Details options related to the user record.
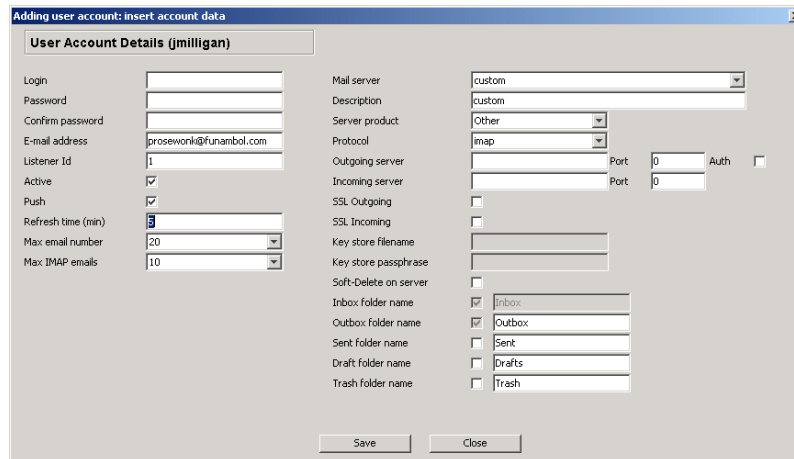
4 Do stuff to the existing record.

5 Click **Save**.

6 When a (confirmation) dialog box appears, click OK. Both DBs close.

7 Repeat as needed.

■ Task: -???-

1 The FEC options appear in the workpane, divided into two collections of options:

• Public Mail Servers

• Accounts

2 Search for and find a server.

3 Search for and find a user account--?

4 DO STUFF with the user account row.

5 Note the Acccount-specific buttons -- Add, Delete, Edit and Cache. "Cache"-???

6 Then what?

Customizing the Data Transformer Manager

Text to come. The DS server uses base64 for all server-client communication encryption. If you want to utilize another algorithm (for example, DES) in addition to or in place of base64, you must change certain settings in the DataTransformer Manager, as detailed here.

■ **Data Transformer Manager options**

1 In the Navigation pane, expand the server tree and double-click **Server Settings**.

The Server Settings options appear in the Data Entry pane.

2 Locate the **Data transformer manager** option (under *Engine*) and click the **Configure** button (to the right of the field).

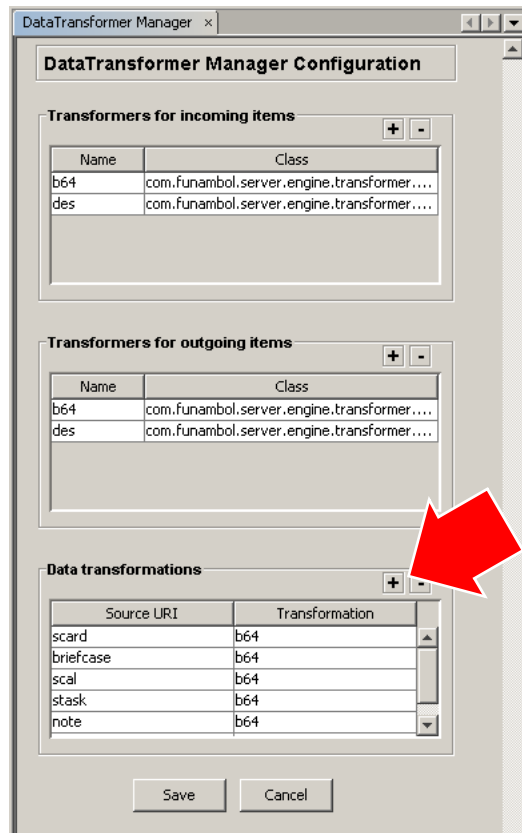**3** The DataTransformer Manager Configuration options appears as shown here.

4 Click the "+" icon in the upper right corner of the **Data Transformations** table.

This creates a new row at the bottom of the table.

5 Make the following entries in each column of the new row:

Source URI	Enter the value of the Source URI (e.g., the string "mail") of the relevant SyncSource instance.
Transformation	Enter the text (for example, des;b64) to apply the relevant encoding to incoming and outgoing communications.

6 Click **Save** to save and apply this transformation.

A confirmation message appears in the Output-Messages pane.

NEED TO ACCOUNT FOR people who want to edit existing transformations.

Module options [-GONE IN v6-???-]
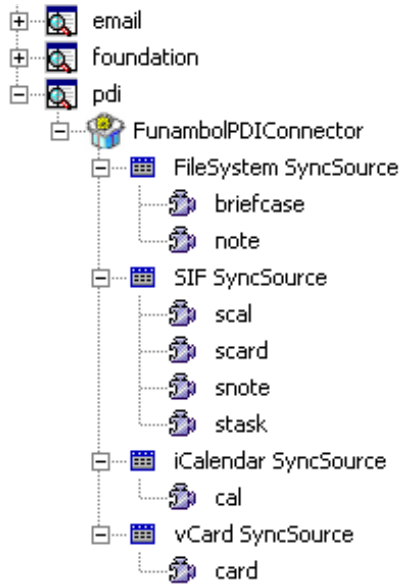
Text to come.

FIGURE 11-8

To prevent the DS server from aggregating user data into a single merged database, follow these steps:

1   Expand the **pdi/FunambolPDIConnector** tree to view the four main syncsources—FileSystem, SIF, iCalendar and vCard.

    Under each syncsource is one or more [-names? instances? synclets? widgets?-].

2   To inspect the specific settings of any of the listed syncsources, double-click a listed item.

The Edit (SyncSource) options appear in the Data Entry pane—as shown here.

3   Click the checkbox by **Multiuser** to keep each record distinct, and avoid a single, merged database. [-THIS IS GONE-]

4   When you are finished, click **Add**.

5   Repeat this procedure with the other FunambolPDIConnector syncsources.

   More?

Starting the Rest of Your Setup

You've now configured the server for basic operational readiness. Now it's time to start a set of new-information entry tasks that is specific to your system and your user base. That includes the following tasks/topics, as detailed in the Administration Guide:

   • Entry of users, devices, and principals.
   • Customizing Email Connector—if using an external mail server as data source
   • Customizing Inbox LIstener—if using email push
   • Customizing DBConnector—if linking to an external data source (outside of your DS server JDBC database.)

Each of these task topics is covered in detail in a clearly labeled chapter, in the *Administration Guide for the DS Server*. See the *Contents* of that guide for page numbers.

Customizing DS Log Settings

A basic DS server installation provides a single log file called funambol_ds.log, which you will find in the funambol\logs directory. This file contains a lot of information; if you prefer, you can use the Funambol Administration Tool to redirect logging for specific server components so that more refined output is sorted into distinct log files.

To review the settings for the default system logger, follow these steps:

1   In the Funambol Administration Tool, expand the navigation pane server tree as noted here:

Server settings > **Logging > Loggers**

A list of logging categories (called "loggers") appears below "Logging", as shown here.
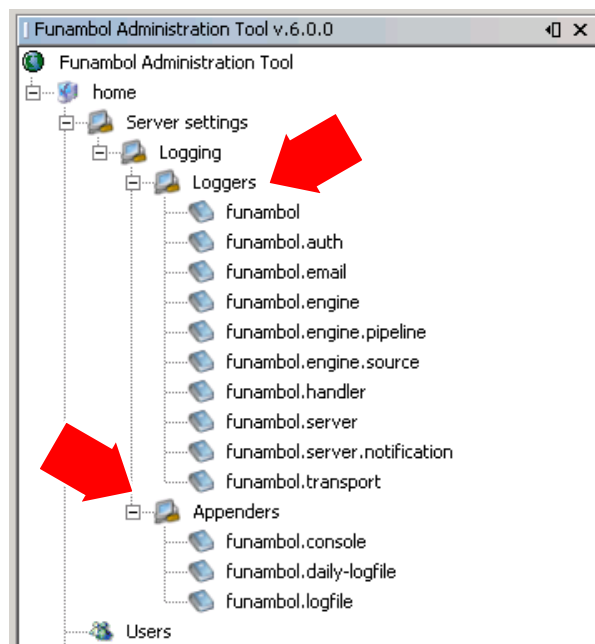
FIGURE 12-1

A second list of TEXT (called "appenders") are also listed here.

2   To review the default log file settings (automatically applied to all other loggers), double-click **Funambol** (under "loggers").

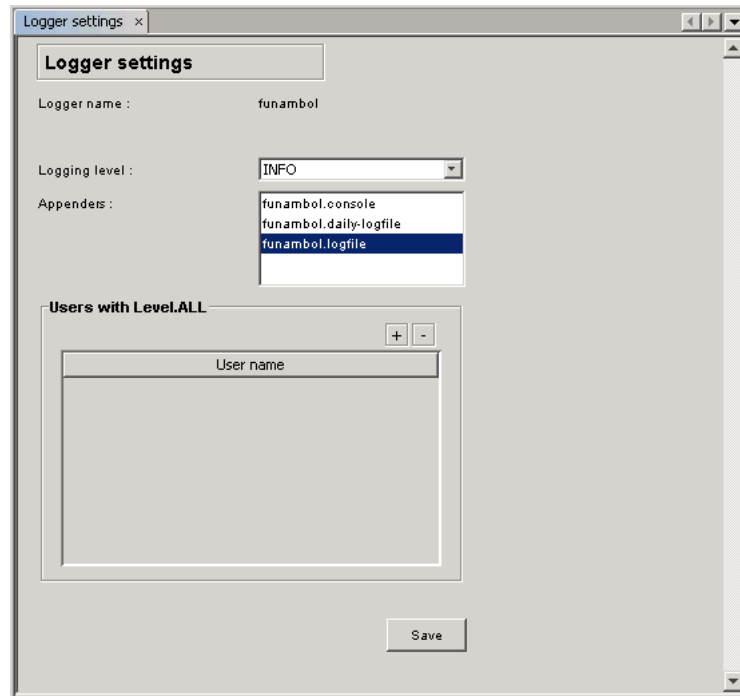The pane displays the current logger settings, which are editable.

These "funambol" settings are automatically applied to all of the other listed loggers. [-???-]

3   To review—and customize—each logging category, double-click each logger name in the **Logger** tree.

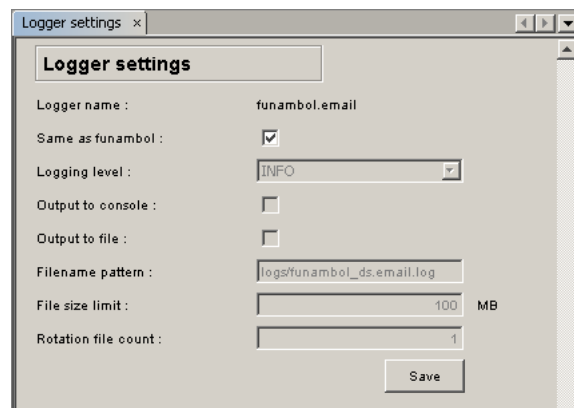Note that all of the options of all other loggers are grayed out (inactive).

At this point, you can redirect a logger to save its records in a separate file, and use the options to customize the logging activities.

4   To customize the settings for a specific server logger, uncheck the **Same as Funambol** checkbox

5   The following logging parameters become active, which you can now revise:

Logger name	(Read only) Notes the name of the logger.
Logging level	Open this menu and choose the level of information to be logged.
	Valid values:
	NONE = no information logged
	ERROR = only errors are logged
	INFO = basic info and errors are logged
	ALL = info, errors and debug information are logged.
	To record all server problems when debugging the server or a syncsource, choose ALL. This level provides the most information. You should also use ALL if you wish to submit a log file for consideration by participants in any Funambol mailing lists.
Appender	Lists the three appenders and allows you to select a different appender if preferable.
Users with LevelALL	User editable? what's this for, and why?

6   Click **Save**.

A confirmation message appears in the Output-Messages pane.

Reviewing the Logging Appenders

Intro text to come.

1   In the Funambol Administration Tool, expand the navigation pane server tree as noted here:

Server settings > **Logging > Loggers**

2   Review the Appenders listed here. These include the following:

funambol.console	Description
funambol.daily-logfile	Description
funambol.logfile	Description

3   Double-click an appender to review its current setttings.

The appender-specific options appear in the workpane. For example, if you open the "funambol.console" appender, this appears.

FIGURE 12-4

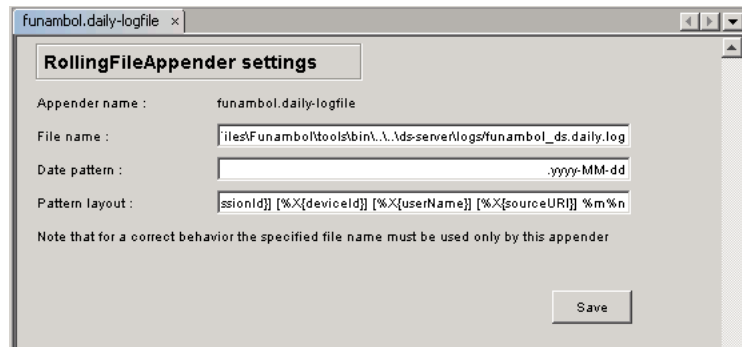If you open the "funambol.daily-logfile" appender, this appears..

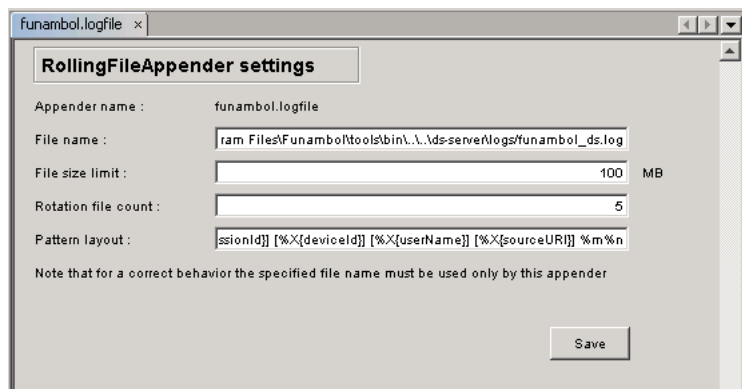If you open the "funambol.logfile" appender, this appears..

4   Do stuff.

5   Click **Save** to apply any changes.

CHAPTER 13

When you are finished

Starting and stopping the Funambol DS Server is controlled by how the host computer starts and stops J2EE applications. The following procedures are noted in the assumption that the Funambol DS Server is installed as a standalone application. Therefore, when the Funambol DS Server is stopped, the entire application server is stopped, and when it is started, the entire application server is started. [-**CROSS-CHECK THIS**-]

Stopping the Server

■ Bundled Installation [Windows]

You can choose from the following actions to stop the DS server:

- Click **Start** and choose **Programs > Funambol > DS Server > Stop Server**
- Right-click the DS server status icon in the Windows system tray and choose **Stop** from the shortcut menu.

NOTE: If you right-click the icon in the system tray, you can also choose **Exit**. This only terminates the service that lets you see if the server is still running, and does not stop the server. (If a shutdown confirmation dialog box appears, click **OK**.)

■ Bundled Installation [Unix/Linux]

To stop the server, follow these steps:

1   With a terminal window, change to the /funambol directory.

2   Run this command:

   sh tools/bin/funambol.sh stop

3   This stops the DS server.

Starting the Server

You can start the DS server by following the relevant procedure:

■ Bundled Installation [Windows]

You can choose from the following actions to start the DS server:

- Click **Start** and choose **Programs > Funambol > DS Server > Start**

- Open the Services control panel and "start" the Funambol server.

■ Bundled Installation [Unix/Linux]

To start the server, follow these steps:

1   With a terminal window, change to the /funambol directory.

2   Run this command:

```
sh tools/bin/funambol.sh start
```

3   This stops the DS server.

Verifying the DS Server Restart

■ Windows server

When you restart the server, the Funambol status icon (two circular arrows) appears in the system tray. The color of the icon indicates the status of the server.

- Green – the server is running.
- Blue – the server is starting, wait for the icon to become green to access the server.

■ Linux server

After you've restarted the DS server, you can verify its operation by following these steps:

1   Run a "ps" command.

2   When the results appear, grep for "funambol".

3   If a listing is found, the server is in operation.