



FUNAMBOL

***Funambol Installation
and Configuration Guide
v6.5***



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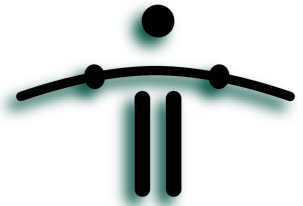
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CONTENTS

Getting Started	1
Preparing a Host Computer	1
Obtaining the Funambol “Bundle” Package	3
Installing the “PIM & Email” Server Bundle	4
Installation on a Windows Host Server	4
Installation on a Linux Host Server	5
Setting up Automatic DS Server Startup	6
Installing the DS Server	8
Installing a DS Server on a Windows or Linux Host	8
Installing the Funambol Administration Tool	10
Obtaining an Installer	10
Starting Installation	11
What’s Next	11
Starting the Funambol Server Administration Tool	12
Logging into the DS server	13
Changing the Admin Account Password	16
Creating Additional Administrator User Accounts	17
Getting Started with Configuration	19
Specifying the Public IP Address	19
What’s Next	19



CHAPTER 1

Getting Started

Before you start the process, you may want to start with a review of your installation options. 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 Synchronization* 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 plan a small-scale Funambol system from the onset and have no application server in use, or 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 required 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 will quickly have a Funambol system ready for real-world use.)

In fact, the "PIM & Email Bundle" includes the companion user guide *Installing and Test Driving the DS Server*. This guide takes you through a low-scale server installation then leads you through evaluation—including two synchronization scenarios:

- Using a "mobile device" emulator or your current copy of Outlook
- Using a real SyncML device, through a live Internet connection, along with your current 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.

To help you get started, the contents of this installation/configuration guide detail all of the setup procedures for each package, for use with both Microsoft Windows and Linux systems.

Preparing a Host Computer

OS-specific versions are available for the "PIM & Email Bundle," for Windows and Linux. A generic installer is available for the standalone DS server. This section details the software and hardware requirements for a successful installation of each package (which have overlapping system requirements.)



Minimum system requirements

Windows-based host	Pentium 4 CPU, running at 1.8GHz Windows 2000 Professional or Windows XP Professional 200 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 200 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 an average of 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 with a minimum of additional setup, this bundle will serve your needs. (Plus, you have the option of establishing links from the DS server 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 the DS Server data-synchronization “test drives”

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

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. Note that the following software should already have been installed and activated on the host:

Java Development Kit	Version 1.5.0_10 or later is required. As part of installation, you need to 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, 5.5.x and 6.0.x. Other servers may prove usable with Funambol, but have not been tested.



As part of installation, you need to verify that the J2EE_HOME environment variable points to the top directory of whatever application server is in use.

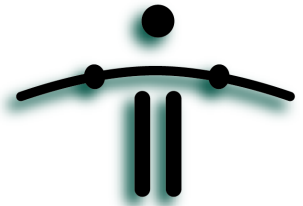
JDBC-compliant database

The use of a RDBMS database by the Funambol DS Server requires that you have previously 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.

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 4 or “Installation on a Linux Host Server” on page 5.



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 5

Installation on a Windows Host Server

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

C:\Program Files\Funambol

- 8** Click **Next** to proceed.

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

Funambol

- 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.



FIGURE 2-1

The server status icon should be green if the server was successfully started. If the icon is red, or if no status icon appears, follow the steps detailed in the next section (“If the server does not automatically start” on page 5) to manually start the DS server.

Once the server is started, you 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 manually start the Funambol server. To do so, follow these steps:

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

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 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 funambo1-<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:

```
/opt/Funambo1
```

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

- 7 Type **y** (Yes) and press Enter.
 - If you prefer to delay startup of the server, you can always change to the proper directory (`/opt/Funambo1/tools/bin`), then run this command at a later time:

```
sh funambo1.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 “funambo1”.
- 3 If a listing is found, the server is in operation.
Or you can do the following:
 - Start a web browser and connect to this URL: `http://localhost:8080/funambo1`
 - A web page with Funambo1 DS Server information appears, if the server is running.

Setting up Automatic DS Server Startup

As of this edition of the user guide, the Funambo1 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/Funambo1/tools/bin/funambo1.sh /etc/init.d/funambo1
```
- 2 Use a text editor to open the newly copied script.
- 3 Open the script in a text editor, and change line 4 as noted here:



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:

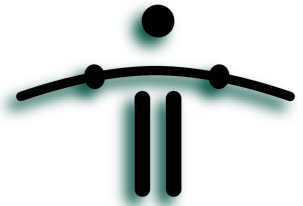
```
ln -s /etc/init.d/funambol /etc/rc3.d/S30funambol
```

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 relevant DS Server package, 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.

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]
```

NOTE: `<application_server>` can be replaced with either `tomcat50` or `tomcat55`.

The installation starts, and bypasses any user agreement.

- 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:

```
/Funambol/ds-server
```

- 6 Run this command:

```
[-Linux-]      bin/start.sh
```

```
[-Windows-]   bin\start.cmd
```

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 (Linux host)

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

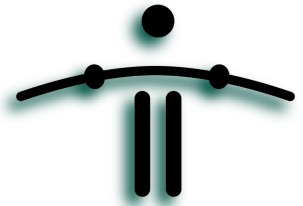
Verifying the server startup (Windows host)

After you've installed and started the DS server, you can verify its operation by starting 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.



CHAPTER 4

Installing the Funambol Administration Tool

If you are installing the DS server as a standalone package on an operational application server, you will also want to download and install the *Funambol Administration Tool*. This GUI-based management application offers invaluable ease of use 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.

As of Summer 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:
`c:\Program Files\Funambol\admin`
- 4** Accept the suggested Program Group:
`Funambol\Administration Tool`
- 5** At the completion of the installation, you are given the option to view the readme file and to start the Administration Tool.

For a Unix/Linux host

You can install and run the Administration Tool by following these steps:

- 1** Expand the compressed file. (The default location is `./Funambol/admin`)
- 2** To run the Administration Tool, change to `./Funambol/admin` and run this command:
`bin/funamboladmin`
This concludes the installation.

What's Next

In the following chapters, you will learn about starting and using the Administration Tool, and complete some preliminary server configuration tasks. After this, turn to the companion guide, *Administration Guide for a DS Server* for step-by-step details on all the first-time and ongoing server management tasks.



CHAPTER 5

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 /Funambo1` and run this command:
`admin/bin/funambo1admin`
- 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 Administration Tool installation directory and run this command:
`bin/funambo1admin`



The Funambol Administration Tool window appears on-screen.

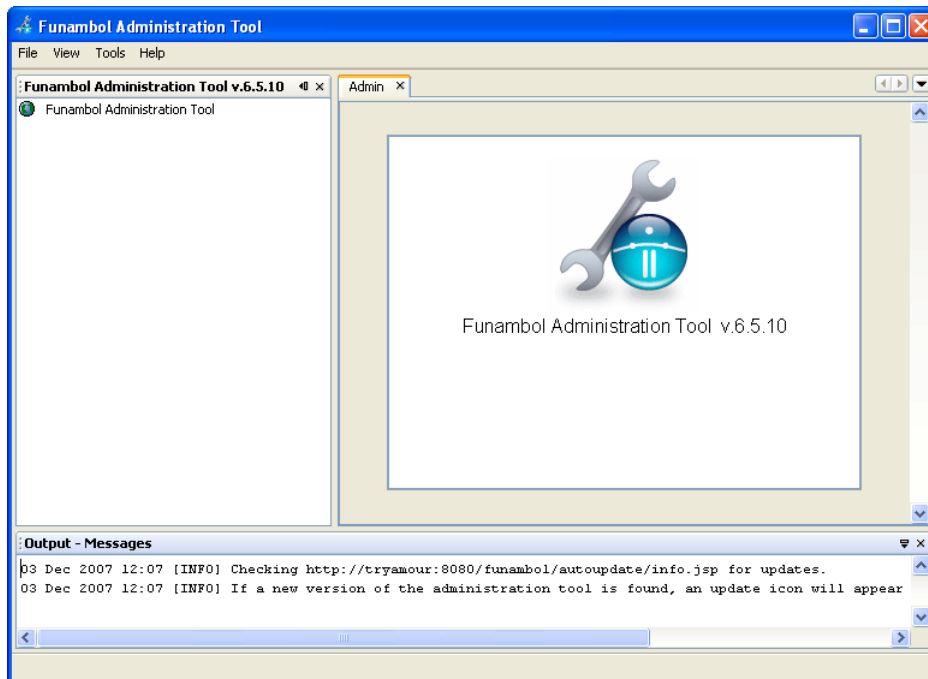


FIGURE 5-1

No information will be displayed until you log in with an administrative user ID and password—as detailed in the next section.

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.

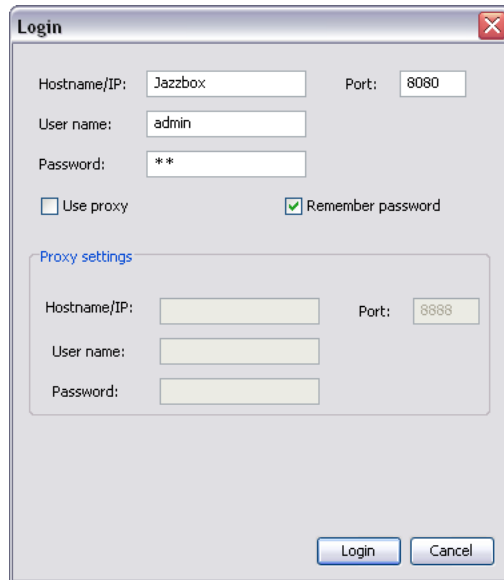


FIGURE 5-2

- The Hostname/IP field displays by default the name of the local computer.
- 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.

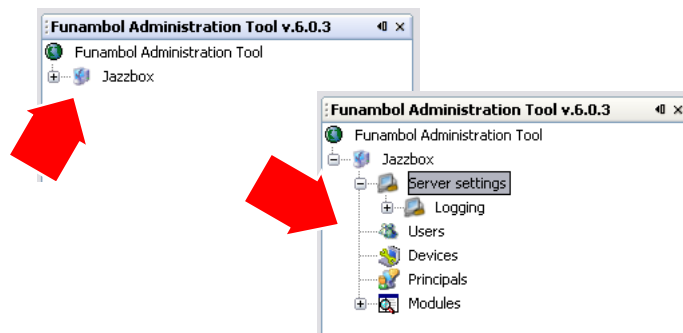


FIGURE 5-3



The main window (in typical working mode) is partitioned into the following panes:

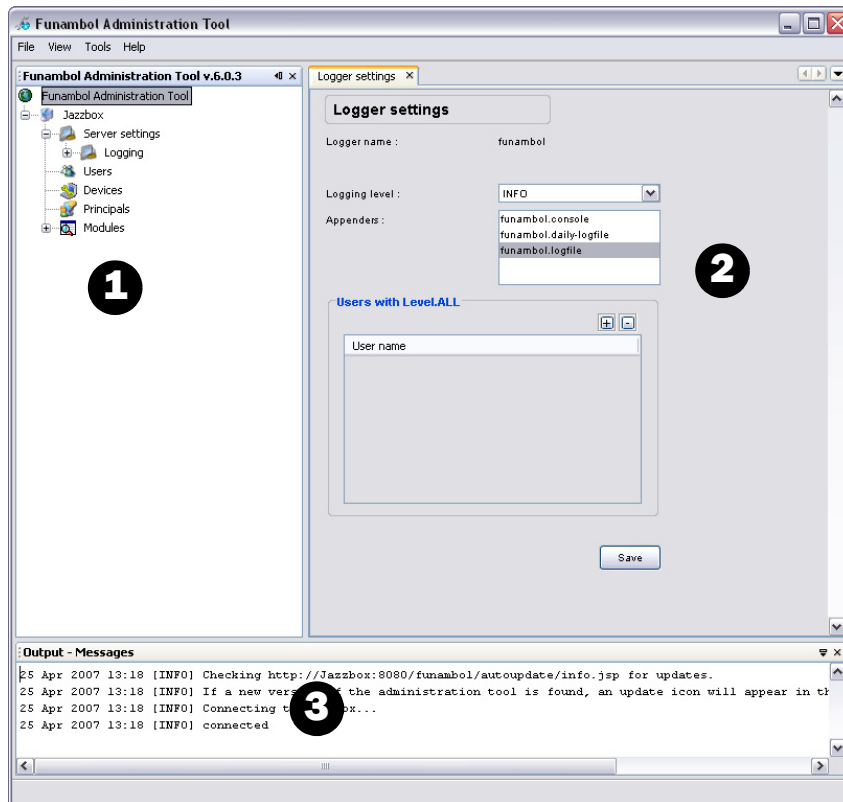


FIGURE 5-4

[-1-] — Navigation

Lists all the primary components, that you can add to or edit, to monitor and maintain the server, users, devices, principals, modules, etc.

Double-click an item in the expanded Navigation tree, to see the current entries and editable options in the Data Entry pane.

[-2-] — Data entry

Use the features in this pane to add, edit, delete or search for information related to the item selected in the Navigation pane.

[-3-] — Output Messages This pane displays in-progress status messages (results, success or failure) relevant to your current task.

In addition, you can temporarily hide one or two of the three principal panes, as needed. For example, some Data Entry displays are very full of options, it's helpful to be able to hide both Navigation and Output panes in order to see all the options.

- 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”

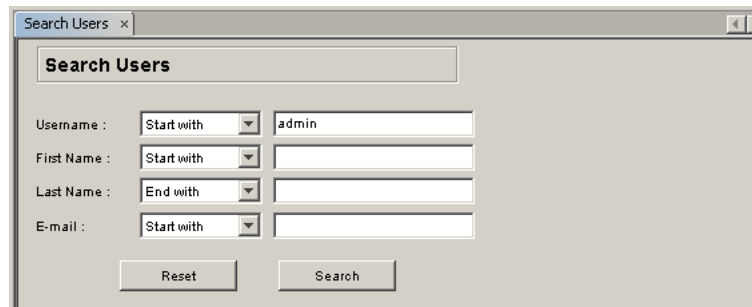
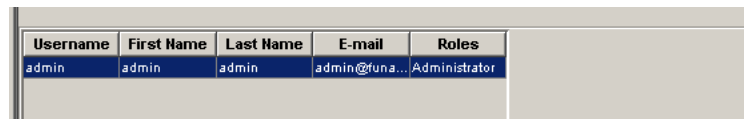


FIGURE 5-5

- 3 Click **Search**.

The admin account should appear in the results table.



Username	First Name	Last Name	E-mail	Roles
admin	admin	admin	admin@funa...	Administrator

FIGURE 5-6

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

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

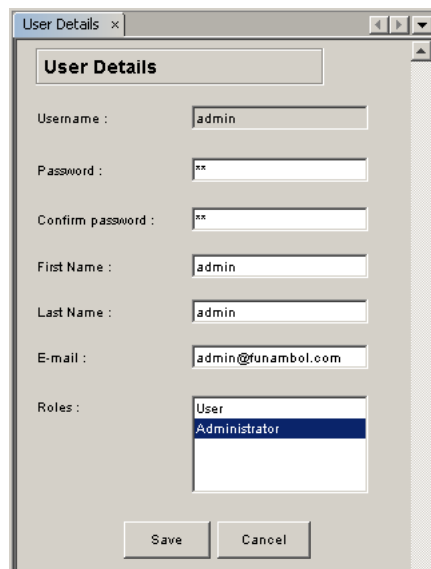


FIGURE 5-7



- 5 Type a new, secure password in both **Password** and **Confirm Password** fields.
- 6 Click **Save** to save and apply the new password.

IMPORTANT!

If you change the password, be sure to do the following to verify the new password:

- 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**.

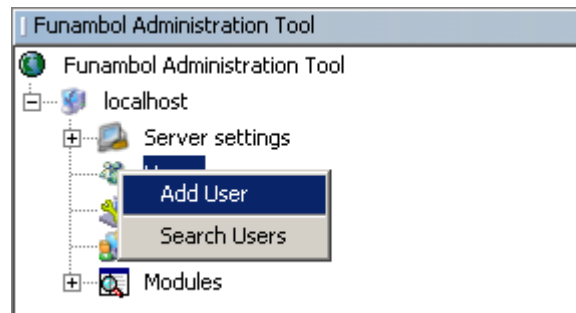


FIGURE 5-8



The Add User options appear in the Data Entry pane.

FIGURE 5-9

- 2** Enter the relevant (and required) 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	Enter the user's first name (not including any middle initials).
Last Name	Enter the user's last name.
Email	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 6

Getting Started with Configuration

After installation is complete, you'll need to replace the default network settings with relevant information. This makes your server ready for the rest of the setup process, as is detailed in the separate guide, *Administration Guide for a DS Server*.

Specifying the Public IP Address

The default installation allows extremely limited access to the Funambol DS Server via a local-host address. This 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, in the following format:
`http://<server name or IP address>:<server port>/funambol/ds`
- 5 Click **Save**.

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

What's Next

You've set up the Funambol DS server for basic operational readiness. Now you can customize it to fit into your network and serve your anticipated user base. This includes the following tasks:

COMPONENT	SETUP TASK?	ON-GOING?	AS NEEDED?
Change the "Admin" account password	Optional	Yes	
Additional "admin" user accounts	Optional		Optional



COMPONENT	SETUP TASK?	ON-GOING?	AS NEEDED?
Custom server configurations	Yes		
Server settings: Capabilities	If needed		
Server settings: Engine	If needed		
User accounts	(Automatic)	If needed	
Device records	(Automatic)	If needed	
Principals	(Automatic)	If needed	
Set up Email Connector	Optional		
Configure Email Push	Optional		
Configure Email module	Optional		Yes
Configure PIM Push	Optional		Yes
Configure Log files, Loggers	Optional		Yes

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