

# **System Administration Guide**

## **Data Synchronizer 1.2**

August 22, 2012

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1800 South Novell Place  
Provo, UT 84606  
U.S.A.  
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# About This Guide

The *Novell Data Synchronizer Administration Guide* helps you to manage your Synchronizer system after you have set it up. The guide is divided into these sections:

- ◆ Chapter 1, “Synchronizer Services,” on page 7
- ◆ Chapter 2, “Synchronizer Web Admin,” on page 9
- ◆ Chapter 3, “Synchronizer System Management,” on page 13
- ◆ Chapter 4, “Connector and User Management,” on page 43
- ◆ Chapter 5, “Synchronizer System Security,” on page 55
- ◆ Appendix A, “Synchronizer System Troubleshooting,” on page 63
- ◆ Appendix B, “Documentation Updates,” on page 65

## Audience

This guide is intended for network administrators who manage a Data Synchronizer system.

## Feedback

We want to hear your comments and suggestions about this manual and the other documentation included with this product. Please use the User Comment feature at the bottom of each page of the online documentation.

## Additional Documentation

For additional Data Synchronizer documentation, see the following documentation provided at the [Novell Data Synchronizer Documentation Web site \(http://www.novell.com/documentation/datasynchronizer1\)](http://www.novell.com/documentation/datasynchronizer1).

- ◆ Novell Data Synchronizer Mobility Pack Readme
- ◆ Novell Data Synchronizer Readme
- ◆ Novell Data Synchronizer installation and administration guides

For additional Data Synchronizer connector documentation, see the following documentation provided at the [Novell Data Synchronizer Connectors Documentation Web site \(http://www.novell.com/documentation/datasync\\_connectors1\)](http://www.novell.com/documentation/datasync_connectors1).

- ◆ Connector Readmes
- ◆ Connector Quick Starts
- ◆ Connector installation and configuration guides

In addition to the Data Synchronizer product documentation, the following resources provide additional information about Data Synchronizer:

- ◆ [Novell Support and Knowledgebase \(http://www.novell.com/support\)](http://www.novell.com/support)
- ◆ [Data Synchronizer Support Forum \(http://forums.novell.com/forumdisplay.php?f=939\)](http://forums.novell.com/forumdisplay.php?f=939)

- ◆ Data Synchronization Cool Solutions (<http://www.novell.com/communities/coololutions/datasynchronizer>)
- ◆ Data Synchronizer Mobility Connector Devices Wiki ([https://vibe.novell.com/vibe/groupwise\\_mobility\\_devices](https://vibe.novell.com/vibe/groupwise_mobility_devices))
- ◆ Data Synchronizer Connector Marketplace (<http://www.novell.com/products/data-synchronizer/connectors>)

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# 1 Synchronizer Services

For an overview of the Novell Data Synchronizer services, see:

- ♦ “[Mobility Pack Product Overview](#)” in the *Novell Data Synchronizer Mobility Pack Installation Guide*
- ♦ “[Data Synchronizer Product Overview](#)” in the *Novell Data Synchronizer Installation Guide*

The Synchronizer services are managed on the command line in a terminal window.

---

**IMPORTANT:** The Synchronizer services must always run as the Linux root user.

---

- ♦ [Section 1.1, “Managing the Data Synchronizer Services Collectively,”](#) on page 7
- ♦ [Section 1.2, “Managing the Synchronizer Services Individually,”](#) on page 7

## 1.1 Managing the Data Synchronizer Services Collectively

Use the following command as root to check the status of the Synchronizer services:

```
rcdatasync status
```

Use the following commands as root to manually start and stop all the Synchronizer services:

```
rcdatasync start
rcdatasync restart
rcdatasync stop
```

By default, when you restart the Synchronizer services, all connectors are automatically restarted as well. If you do not want the connectors to restart automatically along with the Synchronizer services, see [Section 4.5.1, “Controlling Connector Startup,”](#) on page 51. If you choose to manually restart the connectors, always restart the GroupWise Connector first.

## 1.2 Managing the Synchronizer Services Individually

If you manage the Synchronizer services individually, they should be started in the following order:

- ♦ Config Engine
- ♦ Sync Engine
- ♦ Connector Manager

The Synchronizer services should be stopped in the following order:

- ♦ Connector Manager
- ♦ Sync Engine
- ♦ Config Engine

You can start and stop Web Admin at any time, as long as the other Synchronizer services are running.

Each Synchronizer service has its own set of commands:

- ♦ [Section 1.2.1, “Managing the Sync Engine,” on page 8](#)
- ♦ [Section 1.2.2, “Managing the Config Engine,” on page 8](#)
- ♦ [Section 1.2.3, “Managing the Web Admin Service,” on page 8](#)
- ♦ [Section 1.2.4, “Managing the Connector Manager,” on page 8](#)

## 1.2.1 Managing the Sync Engine

Use the following command as `root` to check the status of the Sync Engine:

```
rcdatasync-syncengine status
```

Use the following commands as `root` to manually start and stop the Sync Engine:

```
rcdatasync-syncengine start  
rcdatasync-syncengine restart  
rcdatasync-syncengine stop
```

## 1.2.2 Managing the Config Engine

Use the following command as `root` to check the status of the Config Engine:

```
rcdatasync-configengine status
```

Use the following commands as `root` to manually start and stop the Config Engine:

```
rcdatasync-configengine start  
rcdatasync-configengine restart  
rcdatasync-configengine stop
```

## 1.2.3 Managing the Web Admin Service

Use the following command as `root` to check the status of the Web Admin service:

```
rcdatasync-webadmin status
```

Use the following commands as `root` to manually start and stop the Web Admin service:

```
rcdatasync-webadmin start  
rcdatasync-webadmin restart  
rcdatasync-webadmin stop
```

## 1.2.4 Managing the Connector Manager

Use the following command as `root` to check the status of the Connector Manager:

```
rcdatasync-connectors status
```

Use the following commands as `root` to manually start and stop the Connector Manager:

```
rcdatasync-connectors start  
rcdatasync-connectors restart  
rcdatasync-connectors stop
```



# 2 Synchronizer Web Admin

All configuration of your Synchronizer system is done through Synchronizer Web Admin. When you log in as the Synchronizer administrator, you can configure the Sync Engine and connectors. When users log in using their network user names and password, they can control connector-specific aspects of data synchronization for each connector where they have been added.

- ♦ [Section 2.1, “Accessing Synchronizer Web Admin as an Administrator,”](#) on page 9
- ♦ [Section 2.2, “Accessing Synchronizer Web Admin as a User,”](#) on page 10

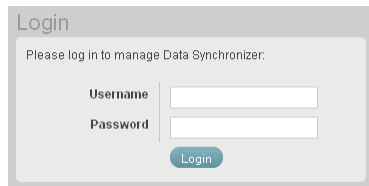
See also [Section 3.1, “Configuring Synchronizer Web Admin,”](#) on page 13.

## 2.1 Accessing Synchronizer Web Admin as an Administrator

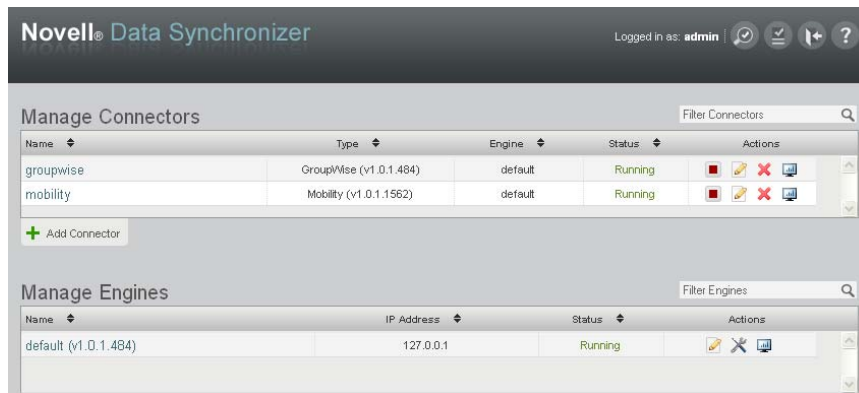
- 1 Access Synchronizer Web Admin at the following URL:

`https://data_synchronizer_server:8120`

Replace `data_synchronizer_server` with the IP address or DNS hostname of the Synchronizer server.



- 2 Specify the Synchronizer administrator user name (such as `admin`) and password that were established during installation, then click *Login*.




Name	Type	Engine	Status	Actions
groupwise	GroupMise (v1.0.1.484)	default	Running	[Stop] [Refresh] [Delete] [Info]
mobility	Mobility (v1.0.1.1562)	default	Running	[Stop] [Refresh] [Delete] [Info]

Name	IP Address	Status	Actions
default (v1.0.1.484)	127.0.0.1	Running	[Stop] [Refresh] [Info]

Synchronizer system configuration and administration is performed using Synchronizer Web Admin.

- ◆ [Section 3.1, “Configuring Synchronizer Web Admin,”](#) on page 13
- ◆ [Section 3.2, “Configuring the Sync Engine,”](#) on page 19
- ◆ [Section 4.2, “Managing Users,”](#) on page 44
- ◆ [Section 4.3, “Managing LDAP Groups,”](#) on page 48
- ◆ [Section 4.1, “Managing User Profiles,”](#) on page 43
- ◆ [Section 4.4, “Auditing User Synchronization Activity,”](#) on page 50
- ◆ [Section 4.5, “Customizing General Connector Configuration Settings,”](#) on page 51

3 Click  to log out of Synchronizer Web Admin.

If you want multiple users to be able to access Synchronizer Web Admin, see [Section 3.1.2, “Setting Up Multiple Synchronizer Administrator Users,”](#) on page 14.

## 2.2 Accessing Synchronizer Web Admin as a User

Users can use the Synchronizer Web Admin URL to access the Data Synchronizer User Options page by logging in with their network user names and passwords.

---

**IMPORTANT:** Even if you have configured your Synchronizer system to use GroupWise authentication for mobile device access, as described in [“Using GroupWise Authentication Instead of LDAP Authentication for Mobile Devices”](#) in [“Mobility Connector Configuration”](#) in the *Mobility Connector Installation and Configuration Guide*, users still need to use their network (LDAP) user names and passwords to access the Data Synchronizer User Options page.

GroupWise users who are represented in eDirectory as GroupWise external entities cannot access the User Options page, because GroupWise external entities cannot log in to eDirectory (LDAP).

---

The options available to users depend on the connectors to which they have been added. All users added during the Mobility Pack installation have at least the following options:



If you are installing a different combination of connectors, the list includes the connectors that you are installing.

The user options available for each connector are described in the [Quick Start \(http://www.novell.com/documentation/datasync\\_connectors1\)](http://www.novell.com/documentation/datasync_connectors1) for each connector.

If you set yourself up as the Synchronizer administrator user, you can access your personal User Options page with the following URL:

`https://data_synchronizer_server:8120/admin/user/user name`



---

# 3 Synchronizer System Management

When you install Novell Data Synchronizer, it is configured with default settings that are appropriate for your initial Synchronizer system. After installation, you can customize your Synchronizer system configuration as your Synchronizer system expands over time.

- ◆ [Section 3.1, “Configuring Synchronizer Web Admin,” on page 13](#)
- ◆ [Section 3.2, “Configuring the Sync Engine,” on page 19](#)
- ◆ [Section 3.3, “Monitoring the Sync Engine,” on page 23](#)
- ◆ [Section 3.4, “Monitoring Disk Space Usage,” on page 25](#)
- ◆ [Section 3.5, “Working with Synchronizer Log Files,” on page 25](#)
- ◆ [Section 3.6, “Maintaining the Synchronizer Database,” on page 34](#)
- ◆ [Section 3.7, “Changing the Synchronizer Database Password,” on page 35](#)
- ◆ [Section 3.8, “Backing Up Your Synchronizer System,” on page 36](#)
- ◆ [Section 3.9, “Reconfiguring Your Synchronizer System to Reflect Network Changes,” on page 39](#)

## 3.1 Configuring Synchronizer Web Admin

[Synchronizer Web Admin](#) is the management and administration tool for your Synchronizer system.

- ◆ [Section 3.1.1, “Searching Multiple LDAP Contexts for Users and Groups,” on page 13](#)
- ◆ [Section 3.1.2, “Setting Up Multiple Synchronizer Administrator Users,” on page 14](#)
- ◆ [Section 3.1.3, “Adjusting the Synchronizer Web Admin Polling Rate for Groups,” on page 15](#)
- ◆ [Section 3.1.4, “Adjusting the Synchronizer Web Admin Timeout,” on page 16](#)
- ◆ [Section 3.1.5, “Changing the Synchronizer Web Admin Port Number,” on page 16](#)
- ◆ [Section 3.1.6, “Enabling and Disabling SSL for the Synchronizer LDAP Connection,” on page 17](#)
- ◆ [Section 3.1.7, “Configuring Synchronizer Web Admin for a Specific Language,” on page 17](#)
- ◆ [Section 3.1.8, “Controlling Web Administration Service Logging,” on page 18](#)


### 3.1.1 Searching Multiple LDAP Contexts for Users and Groups

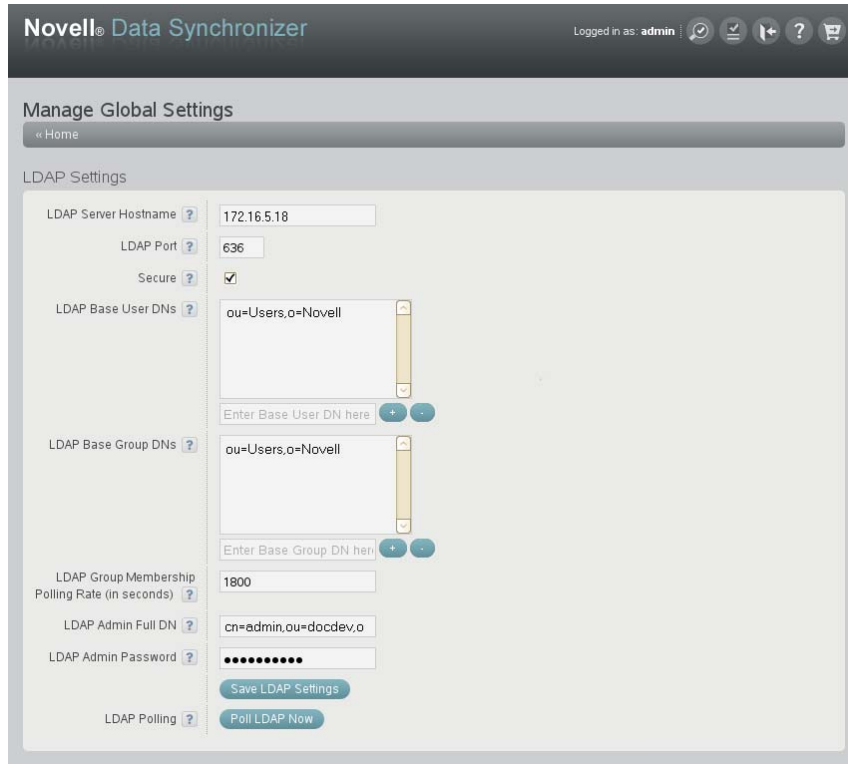
During installation, you specify one LDAP container to search in for user information and another container to in search for group information. After installation, you can add more containers for Synchronizer Web Admin to search in for users and groups when you need to add users and groups to a connector.

---

**IMPORTANT:** Subcontainers are also searched, so you do not need to add them separately.



---

- 1 In [Synchronizer Web Admin](#), click  (*Manage Global Settings*).



The screenshot shows the 'Manage Global Settings' page in Novell Data Synchronizer. The page is titled 'Novell Data Synchronizer' and shows the user is logged in as 'admin'. The main section is 'LDAP Settings'. It includes the following fields and controls:

- LDAP Server Hostname: 172.16.5.18
- LDAP Port: 636
- Secure:
- LDAP Base User DNs: ou=Users,o=Novell (with a list of containers and a '+ -' button to add more)
- LDAP Base Group DNs: ou=Users,o=Novell (with a list of containers and a '+ -' button to add more)
- LDAP Group Membership Polling Rate (in seconds): 1800
- LDAP Admin Full DN: cn=admin,ou=docdev,o
- LDAP Admin Password: masked with dots
- Buttons: 'Save LDAP Settings' and 'Poll LDAP Now'

- 2 To search in an additional container for users, specify the container context in the text entry field under *LDAP Base User DNs*, then click  to add the container to the list of containers to search.
- 3 To search in an additional container for groups, specify the container context in the text entry field under *LDAP Base Group DNs*, then click  to add the container to the list of containers to search.
- 4 Click *Save LDAP Settings* to save the new container contexts.

Users and groups from the new container contexts are immediately available for adding to connectors.

### 3.1.2 Setting Up Multiple Synchronizer Administrator Users

During installation, you establish the initial user who can access Synchronizer Web Admin. After installation, you can grant this right to additional users.

- 1 In a terminal window on the Synchronizer server, log in as the `root` user.
- 2 Change to the following directory:  

```
/etc/datasync/configengine
```
- 3 Open the `configengine.xml` file in a text editor.

- 4 Locate the following section:

```
<admins>
  <dn>cn=user_name,ou=organizational_unit,o=organization</dn>
</admins>
```

This section identifies the original Synchronizer user that you established during installation.


- 5 Copy the line for the original Synchronizer user to a new line between the <admins> tags., then modify it as needed to identify an additional Synchronizer administrator user.
- 6 Save the configengine.xml file, then exit the text editor.
- 7 Restart the Synchronizer services to put the new setting into effect:

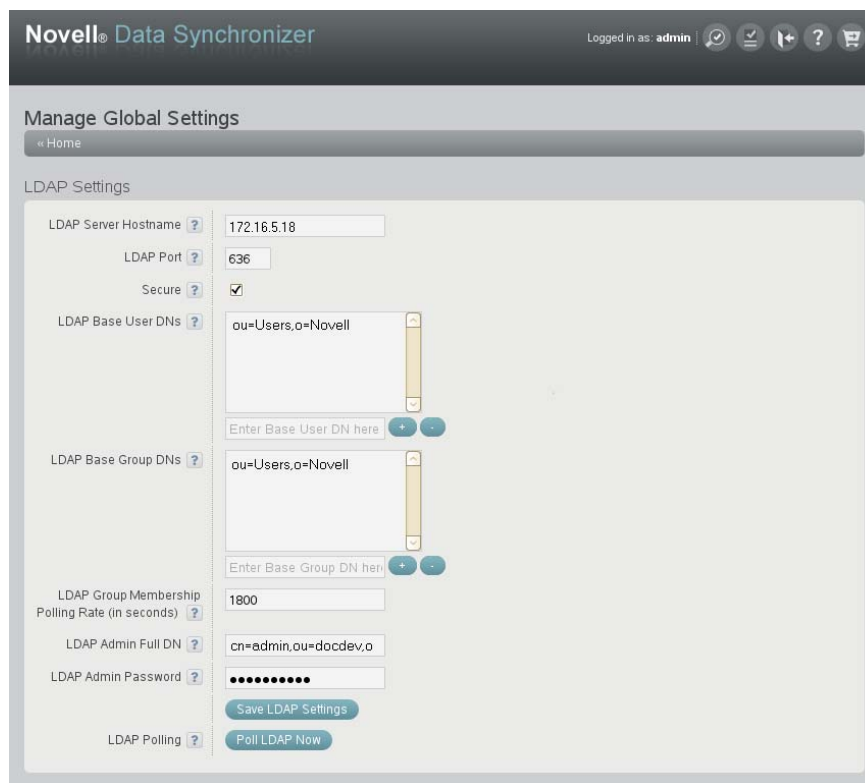
```
rcdatasync restart
```

### 3.1.3 Adjusting the Synchronizer Web Admin Polling Rate for Groups

When you add an LDAP group to your Synchronizer system in Synchronizer Web Admin, the LDAP group's existing members are added to the group as displayed in Synchronizer Web Admin. Subsequently, Synchronizer Web Admin polls for updates to LDAP group membership, so that the group membership displayed in Synchronizer Web Admin always matches the LDAP group membership.

By default, Synchronizer Web Admin polls the LDAP directory for group membership changes every 30 minutes. It polls only the groups in containers that it has been configured to search, as described in [Section 3.1.1, "Searching Multiple LDAP Contexts for Users and Groups,"](#) on page 13.

- 1 In [Synchronizer Web Admin](#), click  (*Manage Global Settings*).



The default polling rate is 1800 seconds (30 minutes)

- 2 Adjust the polling rate as needed to synchronize the group membership in Synchronizer Web Admin with current LDAP group membership more or less often to meet the needs of your Synchronizer system.
- 3 Click *Save LDAP Settings* to put the adjusted polling rate into effect.

### 3.1.4 Adjusting the Synchronizer Web Admin Timeout

By default, Synchronizer Web Admin times out after one hour. You can adjust the session time by editing the Synchronizer Web Admin configuration file.

- 1 In a terminal window on the Synchronizer server, log in as the `root` user.
- 2 Change to the following directory:

```
/etc/datasync/webadmin
```

- 3 Open the `server.xml` file in a text editor.
- 4 Add the following line between the `<config>` tags:

```
<sessionTimeout>seconds</sessionTimeout>
```

- 5 Replace `seconds` with the number of seconds you want to elapse before Synchronizer Web Admin times out.

The default is 3600 seconds (60 minutes). Increase or decrease the setting as needed to meet your security needs.

- 6 Save the `server.xml` file, then exit the text editor.
- 7 Restart the Web Admin service to put the new setting into effect:

```
rcdatasync-webadmin restart
```

### 3.1.5 Changing the Synchronizer Web Admin Port Number

When you access Synchronizer Web Admin from your Web browser, the default port number is 8210. You can configure Synchronizer Web Admin to use a different port number, such as a port number that is already open through your firewall to provide external access to Synchronizer Web Admin.

- 1 In a terminal window on the Synchronizer server, log in as the `root` user.
- 2 Change to the following directory:

```
/etc/datasync/webadmin
```


- 3 Open the `server.xml` file in a text editor.
- 4 Change 8120 to the desired port number.
- 5 Save the `server.xml` file, then exit the text editor.
- 6 Restart the Web Admin service to put the new port number into effect:

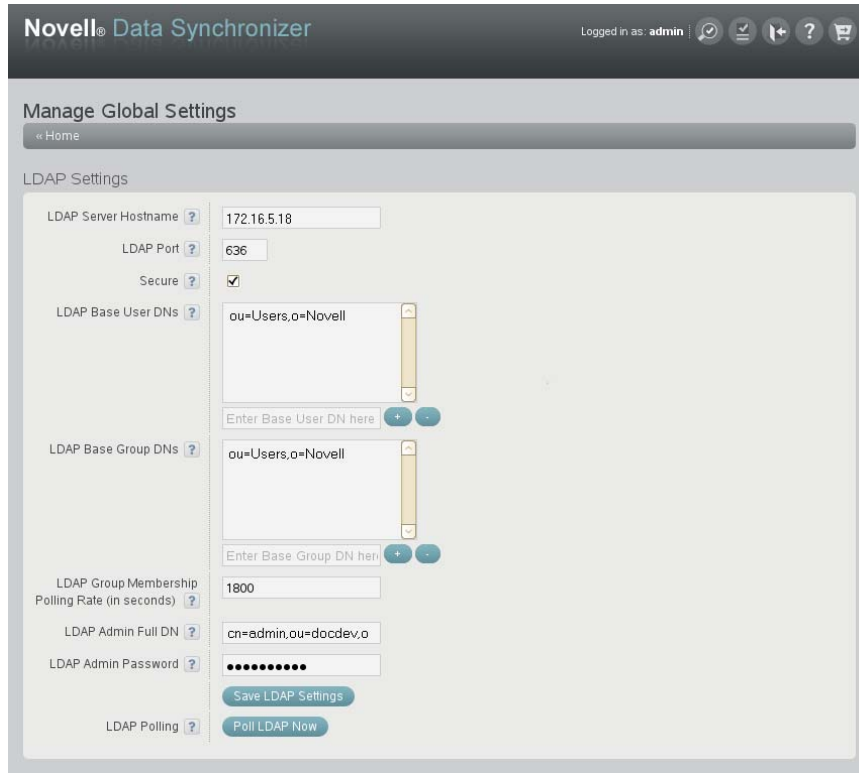
```
rcdatasync-webadmin restart
```



## 3.1.6 Enabling and Disabling SSL for the Synchronizer LDAP Connection

During Mobility Pack or Data Synchronizer installation, you can choose whether to use SSL for the connection between the Synchronizer Web Admin and the LDAP directory. You can change the setting after installation as needed.

- 1 In [Synchronizer Web Admin](#), click  (*Manage Global Settings*).



The screenshot shows the 'Manage Global Settings' page in the Novell Data Synchronizer web interface. The 'LDAP Settings' section is expanded, showing the following fields and values:

- LDAP Server Hostname: 172.16.5.18
- LDAP Port: 636
- Secure:
- LDAP Base User DNs: ou=Users,o=Novell
- LDAP Base Group DNs: ou=Users,o=Novell
- LDAP Group Membership Polling Rate (in seconds): 1800
- LDAP Admin Full DN: cn=admin,ou=docdev,o
- LDAP Admin Password: [Redacted]

Buttons for 'Save LDAP Settings' and 'Poll LDAP Now' are visible at the bottom of the settings section.

- 2 Select or deselect *Secure* to enable or disable SSL.
- 3 In the *LDAP Port* field, adjust the port number as needed to match the port number used by the LDAP server.  
The default secure SSL port is 636. The default non-secure port is 389.
- 4 Click *Save LDAP Settings*.

## 3.1.7 Configuring Synchronizer Web Admin for a Specific Language

The Synchronizer Web Admin interface has been translated into the following languages:

- ♦ Dutch
- ♦ French
- ♦ German
- ♦ Spanish
- ♦ Swedish

By default, Synchronizer Web Admin displays in the same language as your Web browser when you are using one of the supported languages. However, if you are using an unsupported language in your Web browser, Synchronizer Web Admin displays in English.

You can configure Synchronize Web Admin to use the supported language of your choice instead of English.

- 1 In a terminal window on the Synchronizer server, log in as the `root` user.
- 2 Change to the following directory:

```
/etc/datasync/webadmin
```

- 3 Open the `server.xml` file in a text editor.
- 4 Add the following line between the `<config>` tags:

```
<lang>language_code</lang>
```

- 5 Replace `language_code` with the supported language that you want to use for Synchronizer Web Admin instead of English.

Language	Language Code
Dutch	nl
French	fr
German	de
Spanish	es
Swedish	sv

- 6 Save the `server.xml` file, then exit the text editor.
- 7 Restart the Web Admin service to put the new language setting into effect:

```
rcdatasync-webadmin restart
```

### 3.1.8 Controlling Web Administration Service Logging

The Web Administration service writes useful information to the Web Administration service log file (`server.log`). You can control the amount of information that is written to Synchronizer log files. The default log level is Info. For background information about log files, see [Section 3.5, "Working with Synchronizer Log Files,"](#) on page 25.

- 1 In a terminal window on the Synchronizer server, log in as the `root` user.
- 2 Change to the following directory:

```
/etc/datasync/webadmin
```

- 3 Open the `server.xml` file in a text editor.
- 4 Locate the following tag:

```
<log>  
  <output>/var/log/datasync/webadmin/server.log</output>  
  <level>info</level>  
</log>
```

This section identifies the Web Administration service log file and sets the logging level.

- 5 Replace the logging level between the `<log>` tags with the desired logging level:
  - ♦ **debug:** Logs large quantities of developer-level data. This log level is appropriate for troubleshooting purposes. It puts a heavy load on the Web Administration service and should be used only until the troubleshooting activities are completed.

- ♦ **info:** Logs informational messages about normal Web Administration service processing. This log level is suitable for a Synchronizer administrator who wants to observe the functioning of the Web Administration service. However, it puts a heavier load on the Web Administration service than the Warning and Error log levels. This is the default log level.
- ♦ **warning:** Logs problems that should not adversely affect Web Administration service processing but should be investigated and resolved for optimum performance. This log level is appropriate for a smoothly running Web Administration service where you only want to be notified of warnings and errors.
- ♦ **error:** Logs error messages that indicate critical errors in Web Administration service processing. This log level puts the least load on the Web Administration service because it logs only critical errors.

6 Save the `server.xml` file, then exit the text editor.

7 Restart the Web Administration service to put the new setting into effect:

```
rcdatasync-webadmin restart
```

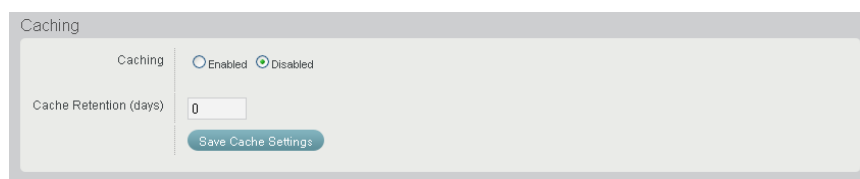
## 3.2 Configuring the Sync Engine

- ♦ [Section 3.2.1, “Enabling Caching for Troubleshooting Purposes,” on page 19](#)
- ♦ [Section 3.2.2, “Enabling Per-User Logging,” on page 20](#)
- ♦ [Section 3.2.3, “Controlling Sync Engine Logging,” on page 21](#)
- ♦ [Section 3.2.4, “Controlling Config Engine Logging,” on page 22](#)

### 3.2.1 Enabling Caching for Troubleshooting Purposes

By default, the Sync Engine stores events in the Synchronizer database until it transfers the events to the connectors that have subscribed to the events, then it deletes the events from the Synchronizer database. For troubleshooting purposes, you can configure the Sync Engine to cache events in the Synchronizer database even after the events have been transferred to connectors. You can also control the length of time such events are cached. When your troubleshooting is completed, you can clear the cached events.

- 1 In [Synchronizer Web Admin](#), click *default* in the *Manage Engines* section, then scroll to the *Caching* section.



- 2 Select *Enabled* to turn on caching for the Synchronizer database.
- 3 Specify the number of days to cache the events.

Event caching causes the Synchronizer database to grow in size based on the amount of traffic through the Sync Engine.

- 4 Click *Save Cache Settings*.

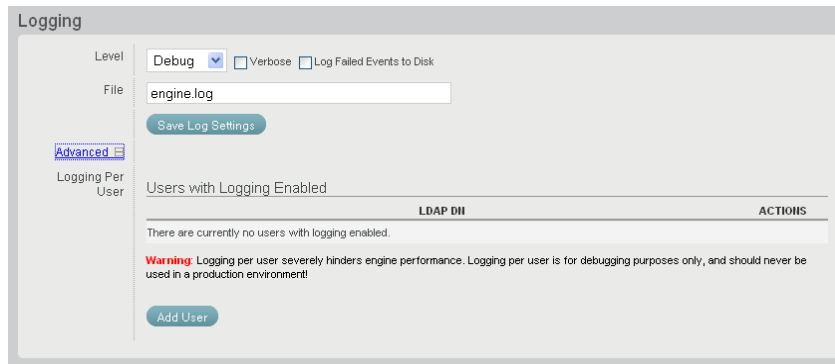
- 5 When you are finished with your troubleshooting activities, disable caching to reduce the amount of data stored in the Synchronizer database:
  - 5a Return to the Engine Configuration page.
  - 5b In the *Caching* box, select *Disabled*, then click *Save Cache Settings*.
  - 5c In the *Maintenance* box, click *Clear Cache*.

## 3.2.2 Enabling Per-User Logging

If individual users are having problems that are not experienced by most users, you can enable per-user logging. Per-user logging places a heavy load on the Synchronizer services and causes log files to grow very large very quickly. It should only be used for brief periods of troubleshooting individual user problems.

Per-user logging collects user-specific errors from the Sync Engine log (`engine.log`) and the connector log (`default.pipeline1.connector_name.log`) and consolidates them into a single, user-specific log file.

- 1 In [Synchronizer Web Admin](#), click *default* in the *Manage Engines* section, scroll to the *Logging* section, then click *Advanced*.



- 2 Enable a user for logging:

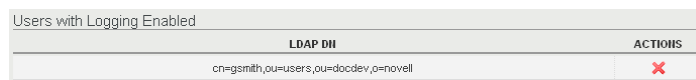
- 2a Click *Add User*.



- 2b Specify the fully distinguished name (`cn-user_name,ou-orgunit,o=organization`) of the user that is having problems, then click *Add User*.


A progress box displays briefly, but you do not need to click *OK* in it. You return automatically to the *Logging* section.

- 2c Click *Advanced* to see that the user has been added to the list.



When one user is having problems, but other users are not, it can be helpful to log events for a successfully working user in order to compare the logs of the two users.

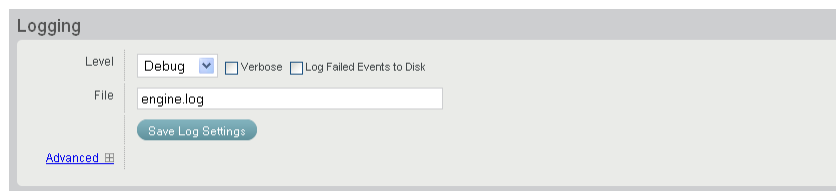
- 3 (Optional) Repeat [Step 2](#) for a successfully working user.  
Each user's log file, named `user_distinguished_name.log`, is created in the following directory:  

```
/var/log/datasync/targets
```
- 4 Review the user log files to help resolve the problem.
- 5 Disable per-user logging:
  - 5a Return to the *Logging* section of the *Engine Configuration* page.
  - 5b Click  to delete each user for whom per-user logging was enabled.

### 3.2.3 Controlling Sync Engine Logging

The Sync Engine writes useful information to the Sync Engine log file (`engine.log`). You can control the amount of information that is written to Synchronizer log files. The default log level is Info. For background information about log files, see [Section 3.5, "Working with Synchronizer Log Files,"](#) on page 25.

- 1 In [Synchronizer Web Admin](#), click *default* in the *Manage Engines* section, then scroll to the *Logging* section



- 2 Select a log level.
  - ◆ **Debug:** Logs large quantities of developer-level data. This log level is appropriate for troubleshooting purposes. It puts a heavy load on the Sync Engine and should be used only until the troubleshooting activities are completed.
  - ◆ **Info:** Logs informational messages about normal Sync Engine processing. This log level is suitable for a Synchronizer administrator who wants to observe the functioning of the Sync Engine. However, it puts a heavier load on the Sync Engine than the Warning and Error log levels. This is the default log level.
  - ◆ **Warning:** Logs problems that should not adversely affect Sync Engine processing but should be investigated and resolved for optimum performance. This log level is appropriate for a smoothly running Sync Engine where you only want to be notified of warnings and errors.
  - ◆ **Error:** Logs error messages that indicate critical errors in Sync Engine processing. This log level puts the least load on the Sync Engine because it logs only critical errors.
- 3 (Optional) Select *Verbose*.  
You can select *Verbose* for any log level. Selecting *Verbose* adds event data to the messages regularly logged at the selected log level.
- 4 (Optional) Select *Log Failed Events to Disk*.  
You can select *Log Failed Events to Disk* for any log level. Logging failed events to disk saves failed events (typically as XML files) in the following directory:

```
/var/lib/datasync/errors
```

Each event file is named using the event ID for the failed event, so that you can correlate messages about specific events with their associated event files. Information about failed events is helpful when you need to contact Support for assistance.

- 5 In the *File* field, specify the name of the Sync Engine log file.

By default, the name of the Sync Engine log file is `engine.log`.

## 3.2.4 Controlling Config Engine Logging

The Config Engine writes useful information to the Config Engine log file (`configengine.log`). You can control the amount of information that is written to Synchronizer log files. The default log level is Info. For background information about log files, see [Section 3.5, “Working with Synchronizer Log Files,”](#) on page 25.

- 1 In a terminal window on the Synchronizer server, log in as the `root` user.
- 2 Change to the following directory:

```
/etc/datasync/configengine
```

- 3 Open the `configengine.xml` file in a text editor.
- 4 Locate the following tag:

```
<log>
  <output>/var/log/datasync/configengine/configengine.log</output>
  <level>info</level>
</log>
```


This section identifies the Config Engine log file and sets the logging level.

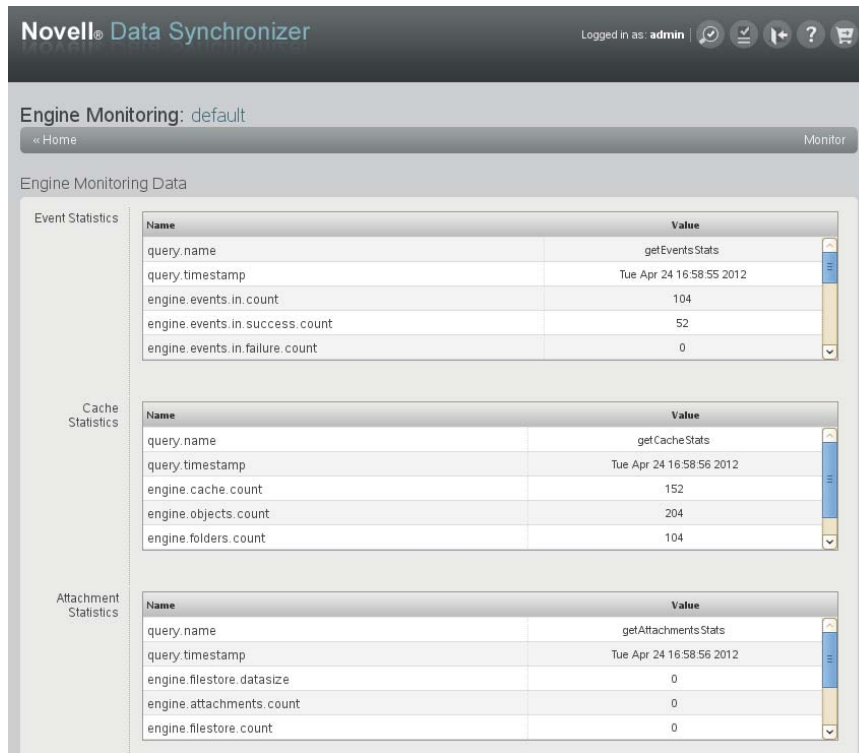
- 5 Replace the logging level between the `<log>` tags with the desired logging level:
  - ♦ **debug:** Logs large quantities of developer-level data. This log level is appropriate for troubleshooting purposes. It puts a heavy load on the Config Engine and should be used only until the troubleshooting activities are completed.
  - ♦ **info:** Logs informational messages about normal Config Engine processing. This log level is suitable for a Synchronizer administrator who wants to observe the functioning of the Config Engine. However, it puts a heavier load on the Config Engine than the Warning and Error log levels. This is the default log level.
  - ♦ **warning:** Logs problems that should not adversely affect Config Engine processing but should be investigated and resolved for optimum performance. This log level is appropriate for a smoothly running Config Engine where you only want to be notified of warnings and errors.
  - ♦ **error:** Logs error messages that indicate critical errors in Config Engine processing. This log level puts the least load on the Config Engine because it logs only critical errors.
- 6 Save the `configengine.xml` file, then exit the text editor.
- 7 Restart the Config Engine to put the new setting into effect:

```
rcdatasync-configengine restart
```

## 3.3 Monitoring the Sync Engine

You can assess the functioning of the Sync Engine by checking statistics for events, caching, and attachments.

- 1 In [Synchronizer Web Admin](#), click  (*Monitoring*) in the *Actions* column for the Sync Engine (default) to display the Engine Monitoring Data page.



The screenshot displays the 'Engine Monitoring: default' page in the Novell Data Synchronizer web interface. It is logged in as 'admin'. The page title is 'Engine Monitoring: default' and it includes a 'Monitor' button. The main content area is titled 'Engine Monitoring Data' and is divided into three sections: 'Event Statistics', 'Cache Statistics', and 'Attachment Statistics'. Each section contains a table with 'Name' and 'Value' columns. The 'Event Statistics' table shows metrics like 'query.name' (getEventsStats), 'query.timestamp' (Tue Apr 24 16:58:55 2012), 'engine.events.in.count' (104), 'engine.events.in.success.count' (52), and 'engine.events.in.failure.count' (0). The 'Cache Statistics' table shows 'engine.cache.count' (152), 'engine.objects.count' (204), and 'engine.folders.count' (104). The 'Attachment Statistics' table shows 'engine.filestore.datasize' (0), 'engine.attachments.count' (0), and 'engine.filestore.count' (0).

- 2 Review the monitoring data in the *Event Statistics* section.

**Events** are actions that users take on items that are being synchronized. A single **item** can have multiple events associated with it.

Statistic	Description
query.name	The name of the Sync Engine query that is returning the statistics ( <code>getEventsStats</code> ).
query.timestamp	The date and time when the statistics were gathered. Refresh your browser window to refresh the statistics.
engine.events.in.count	The number of events that the Sync Engine has received from connectors.
engine.events.in.success.count	The number of events that the Sync Engine has received and has successfully stored in its cache for transfer to connectors.
engine.events.in.failure.count	The number of events that the Sync Engine has received but has not stored in its cache. Events are not stored when there is an error associated with the event, so that it cannot be successfully processed, or because the event is associated with a user that has not yet been added to any connectors.

Statistic	Description
engine.events.in.status.count	<p>The total number of status events that the Sync Engine has received from connectors. Status events inform the Sync Engine whether an event was received, dropped, or ignored by a connector.</p> <p>A connector drops an event when the event does not fit within the active policies of the connector. For example, the connector drops events that do not pertain to any users that have been added to the connector.</p> <p>A connector ignores an event when the event cannot be acted on. For example, if the connector receives a delete event for an item that is no longer available for deletion, it drops the event.</p>
events.in.status.success.count	The number of status events received by the Sync Engine that indicate that the events were successfully processed by a connector, so that the Sync Engine does not need to resend those events.
engine.events.in.dq.count	The number of direct queries received by the Sync Engine. A direct query occurs when Synchronizer Web Admin communicates directly with a connected application.
engine.events.out.count	The total number of events that the Sync Engine has sent out to connectors.
engine.events.out.success.count	The number of events that the Sync Engine sent successfully to connectors.
engine.events.out.dq.count	The number of direct queries sent out to connectors.

### 3 Review the monitoring data in the *Cache Statistics* section.

The Sync Engine caches events until they have been successfully synchronized to all connectors that need the events.

Statistic	Description
query.name	The name of the Sync Engine query that is returning the statistics ( <code>getCacheStats</code> ).
query.timestamp	The date and time when the statistics were gathered. Refresh your browser window to refresh the statistics.
engine.cache.count	The number of events that are currently cached in the database awaiting synchronization.
engine.objects.count	The number of objects associated with the cached events.
engine.folders.count	The number of folders where synchronized items are stored.
engine.cache.pending.count	The number of events that are waiting in the pending queue because one or more events on which they are depending have not yet been received. For example, if the event for adding an item arrives before the event for adding the folder in which the item must be stored, adding the item must wait until the folder has been added.

### 4 Review the monitoring data in the *Attachment Statistics* section.

Many different types of files can be attached to items. Some types and sizes of attachments are synchronized between applications and some are not, depending on how each connector is configured.



Statistic	Description
query.name	The name of the Sync Engine query that is returning the statistics ( <code>getAttachmentsStats</code> ).
query.timestamp	The date and time when the statistics were gathered. Refresh your browser window to refresh the statistics.
engine.attachments.count	The number of logical associations between attachments and events that are stored in the cache.
engine.filestore.count	The number of physical attachment files that are stored in the cache. The number of physical attachment files can be less than the number of logical attachments, because a single physical attachment file can be associated with multiple events.

- When you are finished viewing the engine monitoring data, click *Home* in the menu bar to return to the main Synchronizer Web Admin page.

## 3.4 Monitoring Disk Space Usage

The `datasync-diskcheck.sh` script runs automatically along with the Synchronizer services and monitors disk space usage in the `/var` partition. If disk space usage exceeds 90%, the script shuts down the Synchronizer services normally, to prevent the potential data loss associated with an abnormal shutdown because of insufficient disk space.

The `datasync-diskcheck.sh` script runs every hour. When it detects a low disk space condition, it writes an entry to the `/var/log/datasync/datasync_status` log file. No other notification of the condition is provided before the script shuts down the Synchronizer services.

After a low disk space condition occurs, you can do one or more of the following things to prevent future problems:

- Improve your database maintenance practices. See [Section 3.6, “Maintaining the Synchronizer Database,” on page 34](#). If you are using the Mobility Connector, see also “[Maintaining the Mobility Connector Database](#)” in “[Mobility Connector Configuration](#)” in the *Mobility Connector Installation and Configuration Guide*.
- Remove old log files. For the location of log files, see [Section 3.5, “Working with Synchronizer Log Files,” on page 25](#). If you are using the Mobility Connector, see also “[Using the Mobility Connector Log File](#)” in “[Mobility Connector Installation](#)” in the *Mobility Connector Installation and Configuration Guide*.
- Add more disk space to the Synchronizer server.

## 3.5 Working with Synchronizer Log Files

- [Section 3.5.1, “Log File Overview,” on page 26](#)
- [Section 3.5.2, “Log File Rotation,” on page 26](#)
- [Section 3.5.3, “Sync Engine Log File,” on page 27](#)
- [Section 3.5.4, “Config Engine Log File,” on page 27](#)
- [Section 3.5.5, “Web Admin Log File,” on page 27](#)
- [Section 3.5.6, “Connector Manager Log File,” on page 27](#)

- Section 3.5.7, “Connector Log Files,” on page 27
- Section 3.5.8, “Per-User Log Files,” on page 28
- Section 3.5.9, “Flatfile Connector Troubleshooting,” on page 28
- Section 3.5.10, “Synchronizer Log File Management Tools,” on page 30
- Section 3.5.11, “NTS supportconfig Utility,” on page 33

## 3.5.1 Log File Overview

The Synchronizer services generate a set of log files that are created in subdirectories under the following directory:

```
/var/log/datasync
```

The log file subdirectories and file names are:

Synchronizer Component	Log File Subdirectory	Log File Name
Sync Engine	syncengine	<a href="#">engine.log</a>
Config Engine	configengine	<a href="#">configengine.log</a>
Web Admin	webadmin	<a href="#">server.log</a>
Connector Manager	syncengine	<a href="#">connectorManager.log</a>
Connectors	connectors	<a href="#">default.pipeline1.connector_name-AppInterface.log</a> <a href="#">default.pipeline1.connector_name.log</a>

Use the following command to check the most recent additions to a log file:

```
tail -f log_file_name.log
```

## 3.5.2 Log File Rotation

The Synchronizer log files are automatically compressed and rotated by a `logrotate` cron job. The schedule is set by the `DAILY_TIME="00:30"` line in the `/etc/sysconfig/cron` file, which means that the log files are checked at 12:30 a.m. each night. Any Synchronizer log files that have exceeded 4 MB in size are compressed and rotated at that time. After 99 instances of each log file have accumulated, the oldest log file is deleted when a new log file is created.

Log rotation is controlled by the following files:

```
/etc/logrotate.d/datasync-syncengine
/etc/logrotate.d/datasync-configengine
/etc/logrotate.d/datasync-webadmin
```

By default, `gzip` is used to compress old log files. You can change the compression method by changing the following line in the files listed above:

```
compresscmd /usr/bin/gzip
```

For example, to change from `gzip` (<http://en.wikipedia.org/wiki/Gzip>) compression to `bz2` (<http://en.wikipedia.org/wiki/Bzip2>) compression, use the following line:

```
compresscmd /usr/bin/bzip2
```

Using bz2 compression produces smaller log files but uses more system resources during compression.

For more information, see the Linux `logrotate` ([http://linux.about.com/od/commands/l/blcmdl8\\_logrota.htm](http://linux.about.com/od/commands/l/blcmdl8_logrota.htm)) command.

### 3.5.3 Sync Engine Log File

The Sync Engine log file (`engine.log`) reports on events that pass through the Sync Engine as they transfer from connector to connector. It logs problems with the physical connection to each connector and with communication between connectors. It also logs problems with the event XML files.

To change the Sync Engine logging level, see [Section 3.2.3, “Controlling Sync Engine Logging,” on page 21](#).

### 3.5.4 Config Engine Log File

The Config Engine log file (`configengine.log`) reports on configuration setting changes made in Synchronizer Web Admin and on any effects of those changes on the connections between the Sync Engine and connectors. It also logs issues with starting and stopping connectors and tracks the poll cycle for changes in LDAP groups.

To change the Config Engine logging level, see [Section 3.2.4, “Controlling Config Engine Logging,” on page 22](#).

### 3.5.5 Web Admin Log File

The Web Admin log file (`server.log`) reports problems with the Synchronizer Web Admin interface. Typically, you would not see problems here unless you edited the XML source for one of the Configuration pages and introduced invalid XML. If a Configuration page does not display correctly after you edit the XML source, you can check this log file for help resolving the problem with the XML.

To change the Web Administration service logging level, see [Section 3.1.8, “Controlling Web Administration Service Logging,” on page 18](#).

### 3.5.6 Connector Manager Log File

The Connector Manager log file (`connectorManager.log`) reports problems with loading a connector with the configuration provided on the connector’s Configuration page.

The Connector Manager starts one Python thread for itself and an additional Python thread for each connector that it manages. When you list Connector Manager threads or Python threads in a terminal window, you cannot tell which Python thread is associated with the Connector Manager and which Python thread is associated with each connector. The Connector Manager log file lists each component and the PID number associated with each one. This can be very useful for troubleshooting.

### 3.5.7 Connector Log Files

Each connector has two log files associated with it, as described in [Section 4.5.3, “Controlling Connector Logging,” on page 52](#).

## 3.5.8 Per-User Log Files

Per-user log files (*user\_distinguished\_name.log*) report on problems that a specific user is having. Per-user logging is disabled by default. To enable it, see [Section 3.2.2, “Enabling Per-User Logging,” on page 20](#).

## 3.5.9 Flatfile Connector Troubleshooting

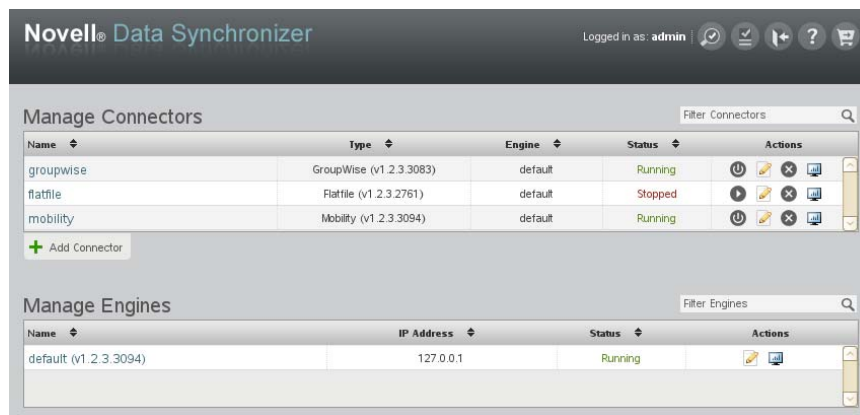
When data does not synchronize as expected, it can be challenging to determine which component in your Synchronizer system is the source of the problem. You can set up a Flatfile Connector to capture the data files that contain data from one application to see how that data is flowing through your Synchronizer system. For example, if data is not synchronizing successfully between GroupWise and a user’s mobile device, you can set up a Flatfile Connector to determine where the problem lies.

- ♦ [“Adding a Flatfile Connector” on page 28](#)
- ♦ [“Troubleshooting Data Flow with the Flatfile Connector” on page 29](#)

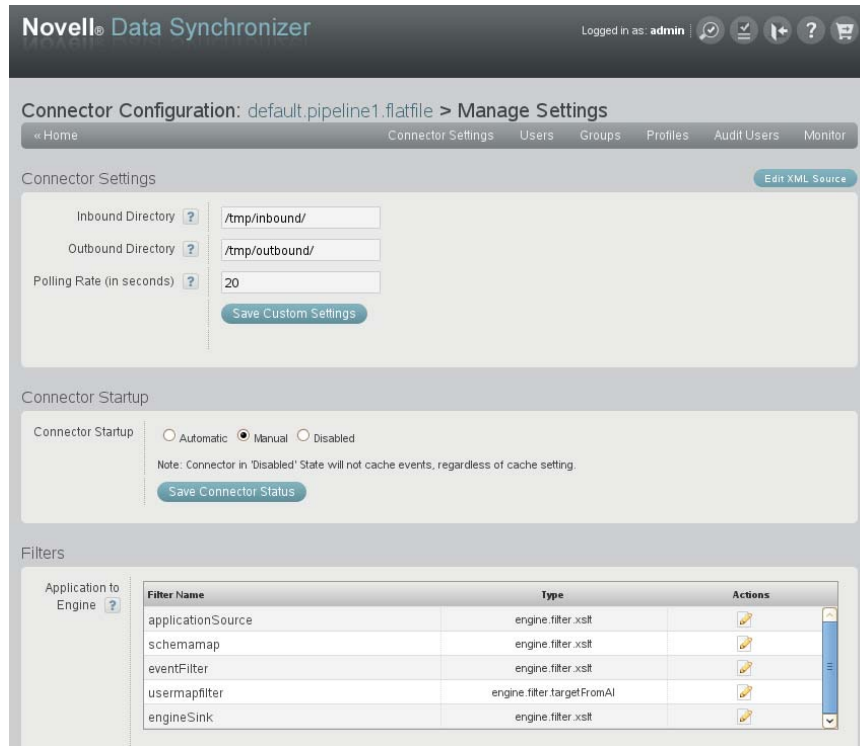
### Adding a Flatfile Connector

- 1 In [Synchronizer Web Admin](#), click *Add Connector*.
- 2 Specify a name for the Flatfile Connector, then click *Add Connector*.

The *Connector Type* field defaults to `flatfile`.



- 3 Click the Flatfile Connector to display the Connector Configuration page.



Note that the Flatfile Connector stores data files received from other connectors in the `/tmp/inbound` directory and files that it sends to other connectors in the `/tmp/outbound` directory. By default, it scans its inbound and outbound directories every 20 seconds.

- 4 Click *Users*, then add the user who is having synchronization problems to the Flatfile Connector.
- 5 Return to the main Synchronizer Web Admin page, then start the Flatfile Connector.

This creates the `/tmp/inbound` and `/tmp/outbound` directories.

## Troubleshooting Data Flow with the Flatfile Connector

- 1 Have the user with the synchronization problem send a message from GroupWise.
- 2 On the Synchronizer server, change to the `/tmp/inbound` directory.

If the data file for the message has been received by the Flatfile Connector, the `/tmp/outbound` directory contains a file named similar to the following example:

```
default-pipeline1-groupwise-source-soapbridge-alphanumeric_string
```

The existence of this file shows that the data passed from GroupWise, through the GroupWise Connector, through the Sync Engine, and to the Flatfile Connector. This indicates that the same data should also have been received the Mobility Connector. If the data does not arrive on the mobile device, it shows that the problem resides in the Mobility Connector.

If a data file does not appear in the `/tmp/outbound` directory, it indicates that the failure occurred in the GroupWise Connector or the Sync Engine, meaning that the Mobility Connector never received the data.

- 3 Have the user with the synchronization problem send a message from the mobile device.
- 4 Again, check the `/tmp/outbound` directory to determine whether the data file successfully passed from the mobile device, through the Mobility Connector, through the Sync Engine, and to the Flatfile Connector.

By using the Flatfile Connector, you can determine which log files are most likely to provide useful data for resolving the problem.

## 3.5.10 Synchronizer Log File Management Tools

Log files can be an effective window into the functioning of your Synchronizer system. The log file management tools help you to consolidate log files from multiple locations and to gather specific types of information from multiple log files in a single operation.

- ♦ [“Collect Logs Tool” on page 30](#)
- ♦ [“Trace Log Tool” on page 31](#)
- ♦ [“Track Time Tool” on page 32](#)
- ♦ [“Manifest File” on page 33](#)

### Collect Logs Tool

As shown in the [Section 3.5.1, “Log File Overview,” on page 26](#), Synchronizer log files are created in a variety of directories. The Collect Logs tool collects the most recent log files into a `.tar.gz` file for convenience when submitting log files to Support. You can collect all of the log files in the following list, or you can collect just the first five, which are the most useful log files:

- ♦ `default.pipeline1.groupwise-AppInterface.log`
- ♦ `default.pipeline1.groupwise.log`
- ♦ `default.pipeline1.mobility-AppInterface.log`
- ♦ `default.pipeline1.mobility.log`
- ♦ `engine.log`
- ♦ `configengine.log`
- ♦ `connectorManager.log`
- ♦ `server.log`

The files are collected into a file named `datasync_logs_YYYY-mm-ddThh.mm.ss.tar.gz`.

To run the Collect Logs tool:

- 1 In a terminal window, become the root user.
- 2 Change to the following directory:  
`/opt/novell/datasync/tools`
- 3 Run the following command:  
`python CollectLogs.pyc`
- 4 Enter `yes` if you want to collect all log files.  
or  
Enter `no` if you want only the five most useful log files.
- 5 Enter `1` for the GroupWise Connector.

- 6 Enter 1 for the Mobility Connector.

The collected logs are listed in the terminal window and compressed into the `.tar.gz` file.

A `manifest.txt` file that lists the log files in the `.tar.gz` file is also included in the `.tar.gz` file. The `manifest.txt` file can be used as input to the other log file management tools, as described in [“Manifest File” on page 33](#).

## Trace Log Tool

The Trace Log tool enables you to trace a specific item or contact through multiple log files.

- 1 In [Synchronizer Web Admin](#), set the logging level to *Debug* for the Sync Engine log file, the GroupWise Connector log file, and the Mobility Connector log file, as described in:
  - ♦ [Section 3.2.3, “Controlling Sync Engine Logging,” on page 21](#)
  - ♦ [Section 4.5.3, “Controlling Connector Logging,” on page 52](#)
- 2 (Conditional) If you want to trace an item (message, appointment, or note), complete this step, then skip to [Step 4](#):
  - 2a In the GroupWise Windows client, send a new item, so that item activity is recorded in the log files.
  - 2b In the Sent Items folder, right-click the item to trace, then click *Properties*.
  - 2c Copy the content of the *Record ID* field to the clipboard of the Windows workstation. A record ID looks similar to the following example:

```
4C7D1A3C.domain.post_office.100.1686237.1.486FE.1
```
  - 2d Make the content of the *Record ID* field available on the Synchronizer server.
- 3 (Conditional) If you want to trace a contact, complete this step, then continue with [Step 4](#):
  - 3a In the GroupWise Windows client, open a personal address book.
  - 3b Right-click the contact to trace, then click *Properties*.
  - 3c Copy the content of the *Entry ID* field to the clipboard of the Windows workstation.
  - 3d Make the content of the *Entry ID* field available on the Synchronizer server.
- 4 In a terminal window on the Synchronizer server, become the `root` user.
- 5 Change to the following directory:

```
/opt/novell/datasync/tools
```

- 6 Run the following command:

```
python traceLog.pyc
```

By default, the Trace Log tool accesses log files in the default locations, as listed in [Section 3.5.1, “Log File Overview,” on page 26](#). If you want the Trace Log tool to access log files other than those in the default locations and with the default names, see [“Manifest File” on page 33](#) for additional instructions.

- 7 Enter 1 for the GroupWise Connector.
- 8 Enter 1 for the Mobility Connector.
- 9 Provide the record ID or entry ID that you gathered in [Step 2](#) or [Step 3](#), then press Enter.

The Trace Log tool now creates a file named `trace.out` in the `tools` directory that includes the following sections to help you diagnose the problem:

```
Starting from GroupWise...
=====

From GroupWise Connector into Engine...
=====

Inside Engine...
=====

From Engine to Mobility Connector...
=====

From Mobility Connector to Device...
=====
```

Each section lists the log messages that pertain to the problem item or problem contact for each segment of the synchronization process, enabling you pinpoint the source of the synchronization problem.

- 10 When you are finished tracing items, set the logging level back to its typical setting.

## Track Time Tool

The Track Time tool tracks the average time from when an item is created or modified in the GroupWise client to when the item or modification is available in the Mobility Connector and ready for download to your mobile device.

- 1 In [Synchronizer Web Admin](#), set the logging level to *Debug* for the Sync Engine log file, the GroupWise Connector log file, and the Mobility Connector log file, as described in:
  - ♦ [Section 3.2.3, “Controlling Sync Engine Logging,” on page 21](#)
  - ♦ [Section 4.5.3, “Controlling Connector Logging,” on page 52](#)
- 2 In a terminal window on the Synchronizer server, become the `root` user.
- 3 Change to the following directory:

```
/opt/novell/datasync/tools
```

- 4 Run the following command:

```
python trackTime.pyc
```

By default, the Track Time tool accesses log files in the default locations, as listed in [Section 3.5.1, “Log File Overview,” on page 26](#). If you want the Track Time tool to access log files other than those in the default locations and with the default names, see [“Manifest File” on page 33](#) for additional instructions.

- 5 Enter 1 for the GroupWise Connector.
- 6 Enter 1 for the Mobility Connector.

The Track Time tool displays the elapsed time statistics in the terminal window.

- 7 When you are finished gathering elapsed time statistics, set the logging level back to its typical setting.



## Manifest File

When you run the Collect Logs tool, it creates a `.tar.gz` file of the collected logs in the `tools` directory. It also includes a `manifest.txt` file that lists the collected log files, for example:

```
{
"GroupWise": "default.pipeline1.groupwise-AppInterface.log",
"Engine": "engine.log",
"Mobility Pipeline": "default.pipeline1.mobility.log",
"Mobility": "default.pipeline1.mobility-AppInterface.log",
"GroupWise Pipeline": "default.pipeline1.groupwise.log"
}
```

The Trace Log tool and the Track Time tool can access the `manifest.txt` file for the list of log files to process. If you want these tools to access archived log files in different locations or with different names from the live log files, you can modify the `manifest.txt` file and make it available to the tools.

- 1 Extract the `manifest.txt` from the `.tar.gz` file into the same directory with the tools (`/opt/novell/datasync/tools`).
- 2 Edit the `manifest.txt` file with the archived log file locations and file names.
- 3 Use the following commands to run the tools:

```
python traceLog.pyc -i manifest.txt
python trackTime.pyc -i manifest.txt
```

- 4 After you have used the tools to access the log files listed in the `manifest.txt` file, delete or rename the `manifest.txt` file, so that the tools access the live log files, not the archived log files, the next time you run them.

### 3.5.11 NTS supportconfig Utility

The `supportconfig` tool provided by Novell Technical Services gathers information about your system to help NTS resolve issues with which you require assistance. It is provided as part of the SLES 11 operating system. You can also use it for your own troubleshooting activities.

Each component of your Synchronizer system (Sync Engine, connectors, and so on) has a `supportconfig` plug-in that gathers information specific to its functioning. The following information is gathered:

- ◆ The component's configuration file with security information such as passwords stripped out
- ◆ The component's current log file
- ◆ The component-specific script that `supportconfig` ran to collect the information

To run `supportconfig` for your own troubleshooting activities:

- 1 In a terminal window on the Synchronizer server, log in as the `root` user.
- 2 Enter the following command:

```
supportconfig
```

The supportconfig utility examines the server very thoroughly. At the end of its list of findings, it lists the Synchronizer components:

```
Supportconfig Plugins:                6
Plugin: ds_configengine...           Done
Plugin: ds_groupwise_connector...    Done
Plugin: ds_manager_connector...      Done
Plugin: ds_mobility_connector...     Done
Plugin: ds_syncengine...             Done
Plugin: ds_webadmin...               Done
```

The utility zips all the data it collected into the following file:

```
/var/log/nts_servername_yymmdd_hhss.tbz
```

This file name identifies the server and the time stamp for the files that supportconfig has collected.

**3** Examine the files that supportconfig collected:

**3a** Copy the .tbz file to a convenient temporary directory.

**3b** Use the following command to unzip the compressed file:

```
tar xjf file_name.tzb
```

The following files contain the information about each Synchronizer component:

```
-rw----- 1 root root 14392 Jul 25 21:13 plugin-ds_configengine.txt
-rw----- 1 root root 33965 Jul 25 21:13 plugin-ds_groupwise_connector.txt
-rw----- 1 root root 3644 Jul 25 21:13 plugin-ds_manager_connector.txt
-rw----- 1 root root 20107 Jul 25 21:13 plugin-ds_mobility_connector.txt
-rw----- 1 root root 11538 Jul 25 21:13 plugin-ds_syncengine.txt
-rw----- 1 root root 2256 Jul 25 21:13 plugin-ds_webadmin.txt
```

**4** View each .txt file to see the configuration file, current log file, and script file for each Synchronizer component.

For more information, see [supportconfig for Linux \(http://www.novell.com/communities/node/2332/supportconfig-linux\)](http://www.novell.com/communities/node/2332/supportconfig-linux).

## 3.6 Maintaining the Synchronizer Database

The Synchronizer database is named `datasync`. The default user for accessing the Synchronizer database is `datasync_user`.

Database maintenance activities for the Synchronizer database ensure satisfactory performance for Synchronizer users.

- ♦ [Section 3.6.1, “Performing General PostgreSQL Database Maintenance,” on page 35](#)
- ♦ [Section 3.6.2, “Configuring Database Maintenance,” on page 35](#)

## 3.6.1 Performing General PostgreSQL Database Maintenance

The Synchronizer database is a PostgreSQL database. As with any database, the Synchronizer database requires regular maintenance in order to perform reliably. If you are new to managing a PostgreSQL database, see “[Routine Database Maintenance Tasks](http://www.postgresql.org/docs/8.3/interactive/maintenance.html)” (<http://www.postgresql.org/docs/8.3/interactive/maintenance.html>) on the PostgreSQL Documentation Web site for assistance.

## 3.6.2 Configuring Database Maintenance

The Synchronizer stores Synchronizer system configuration information and pending events when synchronization between the Sync Engine and connectors is interrupted. By default, automatic database maintenance cleans up orphaned and expired records every 2 hours. You can change this interval as needed. For example, you might prefer one-time nightly maintenance.

- 1 In [Synchronizer Web Admin](#), click the Sync Engine (default) to display the Engine Configuration page, then click *Edit XML Source* to display the Engine XML Source window.

- 2 Add the following tags between the `<settings>` and `</settings>` tags:

```
<cacheCleanupInterval>seconds</cacheCleanupInterval>
```

- 3 Replace *seconds* with the time interval for database maintenance.

For example, you could specify 86400 to perform database maintenance once a day, at midnight.

- 4 Click *Save XML* to save your change, then click *Edit Settings Form* to return to the Engine Configuration page.

- 5 In a terminal window, restart the Sync Engine to put the new database maintenance setting into effect.

```
rcdatasync_syncengine restart
```

## 3.7 Changing the Synchronizer Database Password

To change the Synchronizer database password, you must change the password for `datasync_user` in three places:

- ♦ PostgreSQL (command on the command line)
- ♦ Sync Engine (setting in Synchronizer Web Admin)
- ♦ Config Engine (setting in a configuration file)

- 1 Reset the password for the PostgreSQL database:

- 1a In a terminal window on the Synchronizer server, log in as the `root` user.

- 1b Enter the following command:

```
psql --user datasync_user datasync
```

- 1c Enter the current password for the Synchronizer database.

- 1d Enter the following command at the `datasync>` prompt:

```
ALTER USER datasync_user WITH PASSWORD 'password';
```

Replace *password* with the new password for the Synchronizer database.

- 1e Enter `\q` to quit.

- 2 Reconfigure the Sync Engine to use the new password:
  - 2a In [Synchronizer Web Admin](#), click the Sync Engine.
  - 2b In the *Password* field in the *Database Settings* box, specify the new Synchronizer database password.
  - 2c Click *Save Database Settings*.
- 3 Reconfigure the Config Engine to use the new password:
  - 3a In the terminal window used for [Step 1](#), change to the following directory:
 

```
/etc/datasync/configengine
```
  - 3b Edit the `configengine.xml` file in a text editor.
  - 3c In the `<database>` section, replace the existing database password with the new password between the `<password>` tags.
  - 3d Save the `configengine.xml` file, then exit the text editor.
- 4 Restart the Synchronizer services:
 

```
rcdatasync restart
```
- 5 (Conditional) If you want to change the Mobility Connector database password to match the Synchronizer database password, follow the instructions in [“Changing the Mobility Connector Database Password”](#) in [“Mobility Connector Configuration”](#) in the *GroupWise Connector Installation and Configuration Guide*.

## 3.8 Backing Up Your Synchronizer System

All of the user data that exists at any time in your Synchronizer system also exists in the applications being synchronized. Therefore, if there is a problem with your Synchronizer system, you can always resynchronize in order to restore your user data to a current working state.

If desired, you can back up your entire Synchronizer system in order to preserve the Mobility Pack or Data Synchronizer software, configuration files, certificate files, and database.

- ♦ [Section 3.8.1, “Understanding What to Back Up,”](#) on page 36
- ♦ [Section 3.8.2, “Backing Up a Synchronizer System after Stopping It,”](#) on page 37
- ♦ [Section 3.8.3, “Backing Up a Synchronizer System While It Is Running,”](#) on page 37
- ♦ [Section 3.8.4, “Restoring Your Synchronizer System,”](#) on page 38

For additional details, see TID 7008163, “How to Back Up and Restore the Mobility Pack” in the [Novell Support Knowledgebase](http://www.novell.com/support) (<http://www.novell.com/support>).

### 3.8.1 Understanding What to Back Up

- ♦ Use your backup software of choice to back up the following directories on your Synchronizer server:

Directory	Description
<code>/opt/novell/datasync</code>	Mobility Pack or Data Synchronizer software
<code>/etc/datasync</code>	Configuration files
<code>/var/lib/datasync</code>	Certificate files

- ♦ Use a PostgreSQL-supported backup solution to back up the Synchronizer database and other connector databases in the following directory:

```
/var/lib/pgsql
```

- ♦ Decide how you want to back up the data:
  - ♦ [Backing Up a Synchronizer System after Stopping It](#)
  - ♦ [Backing Up a Synchronizer System While It Is Running](#)

## 3.8.2 Backing Up a Synchronizer System after Stopping It

Stopping your Synchronizer system before backing it up is the safest way to ensure a completely consistent backup.

- 1 In a terminal window on the Synchronizer server, log in as the `root` user.
- 2 Create a directory for storing your backup files, for example:

```
mkdir /var/dsbackup
```

- 3 Create a script similar to the following:

```
#!/bin/bash
# back up stopped Synchronizer system
rcdatasync stop
rcpostgresql stop
#
tar -czvpf /var/dsbackup/pgsql.tgz /var/lib/pgsql
tar -czvpf /var/dsbackup/vardatasync.tgz /var/lib/datasync
tar -czvpf /var/dsbackup/optdatasync.tgz /opt/novell/datasync
tar -czvpf /var/dsbackup/etcdatasync.tgz /etc/datasync
#
rcpostgresql start
rcdatasync start
```

For example, you could create a script named `dsbackup.sh` in the `/opt/novell/datasync` directory.

- 4 Add execute permissions to the backup script:
 

```
chmod +x script_name.sh
```
- 5 Execute the backup script.
- 6 Change to the directory where you backed up the Synchronizer files to verify that the `.tgz` files were successfully created.

## 3.8.3 Backing Up a Synchronizer System While It Is Running

For convenience, you might want to back up your Synchronizer system while it is still running.

- 1 In a terminal window on the Synchronizer server, log in as the `root` user.
- 2 Create a script to back up the Synchronizer database:
  - 2a Create a file named `.pgpass` in the `root` user's home directory (`/root`).
  - 2b Put the following contents in the `.pgpass` file.

```
*:*:*:datasync_user:database_password
```

The Synchronizer database user is `datasync_user`. The Synchronizer database password was established during installation.

- 2c** Create a database backup script similar to the following, using the `pg_dump` (<http://www.postgresql.org/docs/8.4/static/app-pgdump.html>) command to back up just the Synchronizer database:

```
#!/bin/bash
# back up Synchronizer database
pg_dump -U datasync_user mobility > /tmp/mobility.out
pg_dump -U datasync_user datasync > /tmp/datasync.out
/usr/bin/bzip2 /tmp/mobility.out
/usr/bin/bzip2 /tmp/datasync.out
```

---

**NOTE:** If you are using a connector other than the Mobility Connector, replace `mobility` with the name of the database for your connector. Not all connectors use a connector-specific database.

---

For example, you could create a database backup script named `dsdbbackup.sh` in the `/opt/novell/datasync` directory.

- 2d** Add execute permissions to the database backup script:

```
chmod +x script_name.sh
```

- 2e** Execute the database backup script.

- 3** Create a script to back up the Synchronizer directories:

- 3a** Create a directory for storing your backup files, for example:

```
mkdir /var/dsbackup
```

- 3b** Use the following script to back up the rest of your Synchronizer system while it is still running:

```
#!/bin/bash
# back up running Synchronizer system
tar -czvpf /var/backup/vardatasync.tgz /var/lib/datasync
tar -czvpf /var/backup/optdatasync.tgz /opt/novell/datasync
tar -czvpf /var/backup/etcdatasync.tgz /etc/datasync
```

For example, you could create a script named `dsdirbackup.sh` in the `/opt/novell/datasync` directory.

- 3c** Add execute permissions to the backup script:

```
chmod +x script_name.sh
```

- 3d** Execute the backup script.

- 3e** Change to the directory where you backed up the Synchronizer files to verify that the `.tgz` files were successfully created.

## 3.8.4 Restoring Your Synchronizer System

- 1 Change to the directory where you backed up the Synchronizer files.
- 2 Use the following `tar` command to restore the backed-up Synchronizer directories:

```
tar -xzvf file_name.tgz
```

- 3 (Conditional) If you used the `pg_dump` (<http://www.postgresql.org/docs/8.3/static/app-pgdump.html>) command to back up the Synchronizer database separately, use the `psql` (<http://www.postgresql.org/docs/8.3/static/app-psql.html>) command to restore it.

## 3.9 Reconfiguring Your Synchronizer System to Reflect Network Changes

As time passes, you might make changes to your overall network configuration that affect your Synchronizer system.

- ♦ [Section 3.9.1, “Changing the IP Address of the Synchronizer Server,” on page 39](#)
- ♦ [Section 3.9.2, “Updating the LDAP Password,” on page 41](#)

### 3.9.1 Changing the IP Address of the Synchronizer Server

- ♦ [“Changing the IP Address for a Small Synchronizer System” on page 39](#)
- ♦ [“Changing the IP Address for a Large Synchronizer system” on page 39](#)

#### Changing the IP Address for a Small Synchronizer System

For a Synchronizer system with just a small number of users, the simplest approach is to reinstall the Synchronizer software.

- 1 Uninstall the Synchronizer software, as described in:
  - ♦ [“Uninstalling the Mobility Pack” in “Mobility Pack Installation” in the \*Novell Data Synchronizer Mobility Pack Installation Guide\*](#)
  - ♦ [“Uninstalling Data Synchronizer” in “Data Synchronizer Installation” in the \*Novell Data Synchronizer Installation Guide\*](#)
- 2 Change the IP address of the server.
- 3 Reinstall the Synchronizer software, as described in:
  - ♦ [“Running the Mobility Pack Installation Program” in “Mobility Pack Installation” in the \*Novell Data Synchronizer Mobility Pack Installation Guide\*](#)
  - ♦ [“Running the Data Synchronizer Installation Program” in “Data Synchronizer Installation” in the \*Novell Data Synchronizer Installation Guide\*](#)
- 4 Instruct your mobile device users to delete their accounts from their mobile devices, set them up using the new IP address, then reinitialize their mobile devices.

#### Changing the IP Address for a Large Synchronizer system

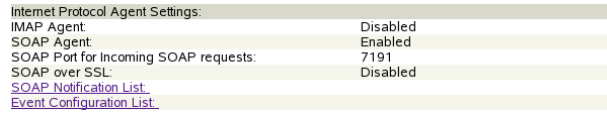
For a Synchronizer system with a large number of users, where having users reinitialize their mobile devices after reinstalling the Synchronizer software could be problematic, you can reconfigure your Synchronizer system with a new IP address, then have users change the IP address that their mobile devices use to access the Synchronizer system.

- 1 Stop the Synchronizer services:

```
rcdatasync stop
```
- 2 Change the IP address of the server.

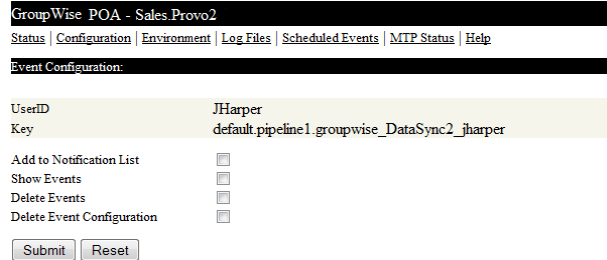
**3** Clear event notifications to the POA that refer to the old IP address:

**3a** In the [POA Web console](#), click *Configuration*, then scroll down to the *Internet Protocol Agent Settings* section.



**3b** Click *Notification List* to list all Synchronizer users on that POA.

**3c** Click each user name to display the Event Configuration page.



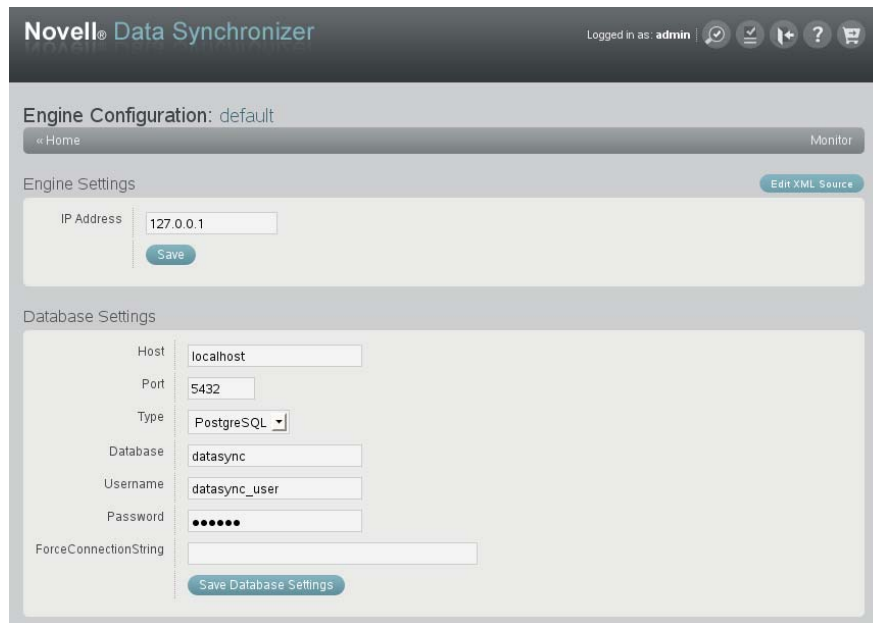
**3d** Select *Delete Events* and *Delete Event Configuration*, then click *Submit*.

**3e** Restart the POA.

**4** Start the Synchronizer services:

```
rcdatasync start
```

Because the Sync Engine is configured with neutral IP address and hostname information, it starts successfully even though the IP address of the server has changed.




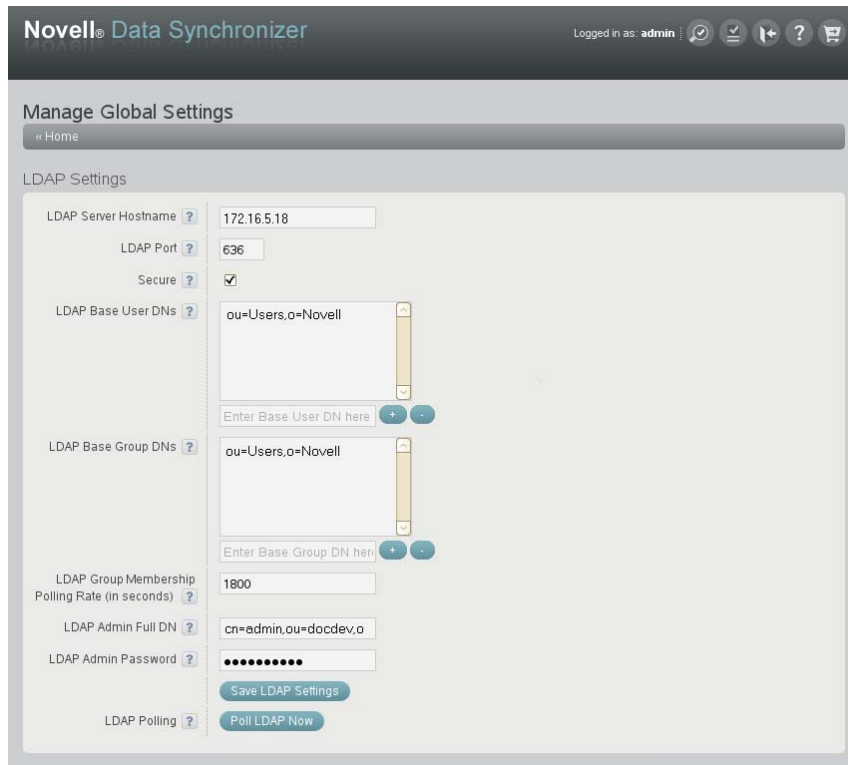
**5** Instruct your mobile device users to reconfigure their accounts with the new IP address.



## 3.9.2 Updating the LDAP Password

If you change the administrator password on your LDAP server, you must reconfigure your Synchronizer server to match the new password.

- 1 In [Synchronizer Web Admin](#), click  (*Manage Global Settings*).



The screenshot shows the 'Novell Data Synchronizer' web interface. The user is logged in as 'admin'. The page title is 'Manage Global Settings' with a 'Home' link. The 'LDAP Settings' section contains the following fields and values:

- LDAP Server Hostname: 172.16.5.18
- LDAP Port: 636
- Secure:
- LDAP Base User DNs: ou=Users,o=Novell
- LDAP Base Group DNs: ou=Users,o=Novell
- LDAP Group Membership Polling Rate (in seconds): 1800
- LDAP Admin Full DN: cn=admin,ou=docdev,o
- LDAP Admin Password: [Redacted]

Buttons at the bottom of the form include 'Save LDAP Settings' and 'Poll LDAP Now'.

- 2 In the *LDAP Admin Password* field, specify the new password, then click *Save LDAP Settings*.
- 3 Restart the Synchronizer services:

```
rcdatasync restart
```



---

# 4 Connector and User Management

For an overview of general Data Synchronizer connector functionality, see:

- ♦ “Connectors” in “Mobility Pack Product Overview” in the *Novell Data Synchronizer Mobility Pack Installation Guide*
- ♦ “Connectors” in “Data Synchronizer Product Overview” in the *Novell Data Synchronizer Installation Guide*

Connector-specific information is located in the *Installation and Configuration Guide* ([http://www.novell.com/documentation/datasync\\_connectors1](http://www.novell.com/documentation/datasync_connectors1)) for each connector. This section provides connector management information that is common to all connectors.

- ♦ Section 4.1, “Managing User Profiles,” on page 43
- ♦ Section 4.2, “Managing Users,” on page 44
- ♦ Section 4.3, “Managing LDAP Groups,” on page 48
- ♦ Section 4.4, “Auditing User Synchronization Activity,” on page 50
- ♦ Section 4.5, “Customizing General Connector Configuration Settings,” on page 51
- ♦ Section 4.6, “Customizing Connector-Specific Configuration Settings,” on page 54
- ♦ Section 4.7, “Deleting a Connector,” on page 54

## 4.1 Managing User Profiles

User profiles enable you to set customized synchronization options for users and groups before you add the users and groups to connectors.

- ♦ Section 4.1.1, “Adding a User Profile,” on page 43
- ♦ Section 4.1.2, “Deleting a User Profile,” on page 44

### 4.1.1 Adding a User Profile

- 1 In *Synchronizer Web Admin*, click the connector to add the profile to, then click *Profiles*.




- 2 Click *Add New Profile* to display the Edit User Profile page.

The synchronization settings vary depending on the selected connector. They are the same settings that users see when they access the [Data Synchronizer User Options page](#). For connector-specific options, see the Quick Start on the [Novell Data Synchronizer Documentation Web site](#) ([http://www.novell.com/documentation/datasync\\_connectors1](http://www.novell.com/documentation/datasync_connectors1)) for the connector where you are adding the user profile.

- 3 In the *Name* field, specify a unique and descriptive name for the new user profile.  
A profile name can include letters, numbers, dashes (-), and underscores (\_).
- 4 Select and deselect synchronization options for the new user profile, then click *Save*.  
The user profile is immediately added to the connector, so that you can select it as you add users and groups to the connector.

## 4.1.2 Deleting a User Profile

- 1 In [Synchronizer Web Admin](#), click the connector where you want to delete the user profile, then click *Profiles*.
- 2 In the *Manage Profiles* list, click  for the profile to delete, then click *Yes* to confirm the deletion.


## 4.2 Managing Users





- ♦ [Section 4.2.1, “Changing a User’s Application Name \(Mobility Pack Only\),” on page 44](#)
- ♦ [Section 4.2.2, “Adding a User to a Connector in Synchronizer Web Admin,” on page 45](#)
- ♦ [Section 4.2.3, “Adding a User to a Connector through an LDAP Group,” on page 46](#)
- ♦ [Section 4.2.4, “Customizing a User’s Synchronization Settings,” on page 47](#)
- ♦ [Section 4.2.5, “Deleting a User from a Connector,” on page 47](#)

### 4.2.1 Changing a User’s Application Name (Mobility Pack Only)

When users are added to your Synchronizer system during Mobility Pack installation, users are added using their LDAP user names. If LDAP user names are not the same as GroupWise user IDs in your GroupWise system, you must set application names for users in order to map their LDAP user names to their GroupWise user IDs. This task must be done after the users have been added to your Synchronizer system, but before initial synchronization takes place.

- 1 In [Synchronizer Web Admin](#), click the connector, then click *Users*.



LDAP Dn	Last Name	First Name	Application User Name	Actions
cn=aolivvos,ou=users,o=novell	Olivvos	Anita	aolivvos	  
cn=bforsgren,ou=users,o=novell	Forsgren	Basil	bforsgren	  
cn=gbock,ou=users,o=novell	Bock	Gustav	gbock	  
cn=jsumi,ou=users,o=novell	Sumi	Jade	jsumi	  
cn=szeeman,ou=users,o=novell	Zeeman	Skip	szeeman	  

+ Add Users to Connector

<< 1 of 1 >>

The Manage Users page lists the users that have already been added to the connector.

- 2 Click each user name in the *Application User name* column, type the GroupWise user ID in the text box, then press Enter.
- 3 Click *Home*, then restart the connector where you modified the users’ application names.

## 4.2.2 Adding a User to a Connector in Synchronizer Web Admin

During installation of the Mobility Pack or Data Synchronizer, you specified one LDAP user container and added users from that container. If you installed the Mobility Pack, the users you added during installation were automatically added to both the GroupWise Connector and the Mobility Connector. If you installed Data Synchronizer, you add users manually in Synchronizer Web Admin.

After installation, you might have configured Synchronizer Web Admin to search additional LDAP containers for users, as described in [Section 3.1.1, “Searching Multiple LDAP Contexts for Users and Groups,”](#) on page 13. Now you can add users to a connector from any LDAP container that Synchronizer Web Admin has been configured to search.

Users must be added to at least two connectors in order for data synchronization to take place. The general instructions for adding users are the same for all connectors.

---

**IMPORTANT:** If you are adding the user to the GroupWise Connector and the Mobility Connector, add the user to the GroupWise Connector first.

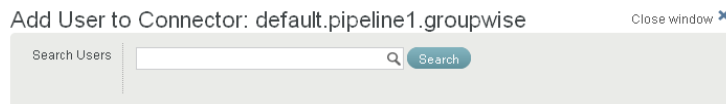
---

- 1 In [Synchronizer Web Admin](#), click the connector to add the user to, then click *Users*.



The Manage Users page lists the users that have already been added to the connector.

- 2 Click *Add Users to Connector*.



- 3 Click *Search* to list the users in LDAP containers that Synchronizer Web Admin has been configured to search.

You can configure Synchronizer Web Admin to search additional containers for users, as described in [Section 3.1.1, “Searching Multiple LDAP Contexts for Users and Groups,”](#) on page 13.

or

In the *Search Users* field, type the first or last name of a specific user, then click *Search*.

Close window ✕

Add User to Connector: default.pipeline1.groupwise

Search Users  Search

Select Users **Search results for "newman" (Showing 1-1 of 1 entries):**

LAST NAME	LDAP DN	USERNAME	APPLICATION USER NAME
<input type="checkbox"/> Newman	cn=dnewman,ou=Users,ou=Docdev,o=Novell dnnewman		<a href="#">Click to set</a>
<input type="checkbox"/> Select All			<< 1 of 1 >>

Apply Profiles

Add

4 Select the user to add to the connector.

5 (Conditional) If the user's user name in the application is not the same as the user's network login, in the *Application User name* column, click *Click to set*, then enter the user's application user name in the text box.

Synchronizer uses application user names to match up users who have different user names in various synchronized applications.

6 (Conditional) If you want to apply a user profile to the user, select the profile in the *Apply Profiles* drop-down list.

For more information, see [Section 4.1, "Managing User Profiles,"](#) on page 43.

7 Click *Add* to add the user to the connector.

The user is immediately added to the connector.

8 Add the user to additional connectors to meet the user's data synchronization needs.

For connector-specific information about adding users, see the following sections in each connector's *Installation and Configuration Guide*:

- ♦ ["Adding Users to the GroupWise Connector"](#)
- ♦ ["Adding Users to the Mobility Connector"](#)

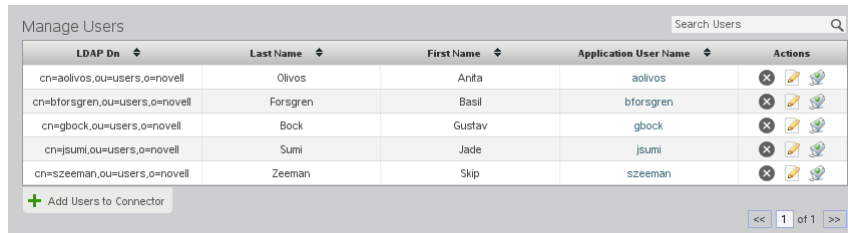
### 4.2.3 Adding a User to a Connector through an LDAP Group

As an alternative to adding users in Synchronizer Web Admin, you can add users to any LDAP groups that have already been added to a connector. Users who are added to LDAP groups are added to the Synchronizer system based on the LDAP Group Membership Polling Rate setting, as described in [Section 3.1.3, "Adjusting the Synchronizer Web Admin Polling Rate for Groups,"](#) on page 15.

## 4.2.4 Customizing a User's Synchronization Settings

By default, all of a user's available address books are synchronized, along with all of the item types supported for each connector. If necessary, you can limit the amount of data that is synchronized for a user.

- 1 In [Synchronizer Web Admin](#), click the connector where you want to change user synchronization settings, then click *Users*.



LDAP Dn	Last Name	First Name	Application User Name	Actions
cn=aolivros,ou=users,o=novell	Olivros	Anita	aolivros	
cn=bforsgren,ou=users,o=novell	Forsgren	Basil	bforsgren	
cn=gbock,ou=users,o=novell	Bock	Gustav	gbock	
cn=jsumi,ou=users,o=novell	Sumi	Jade	jsumi	
cn=szeeman,ou=users,o=novell	Zeeman	Skip	szeeman	

- 2 Click to edit the user's synchronization settings.

The synchronization settings vary depending on the selected connector. They are the same settings that users see when they access the [Data Synchronizer User Options page](#). For connector-specific options, see the Quick Start on the [Novell Synchronizer Connectors Documentation Web site](#) ([http://www.novell.com/documentation/datasync\\_connectors1](http://www.novell.com/documentation/datasync_connectors1)) for the connector where you are editing user settings.

- 3 Select and deselect options as needed to customize the user's data synchronization, then click *Save*.

The user's synchronization settings are immediately changed.

## 4.2.5 Deleting a User from a Connector

- 1 Make sure that the connector is running from which you want to delete the user.
- 2 (Conditional) If the user was added to the connector as an individual user:
  - 2a In [Synchronizer Web Admin](#), click the connector where you want to delete the user, then click *Users*.
  - 2b In the *Manage Users* list, click for the user to delete, then click *Yes* to confirm the deletion.
  - 2c Repeat the process for each connector where you want to delete the user.
- 3 (Conditional) If the user was added to the connector as a member of an LDAP group, delete the user from the LDAP group in your LDAP directory.

For example, you can use ConsoleOne or iManager to delete the user from the LDAP group in eDirectory.

The user is removed from the group, and therefore from all connectors where that group is assigned, according to the group polling rate, as described in [Section 3.1.3, "Adjusting the Synchronizer Web Admin Polling Rate for Groups,"](#) on page 15. If you do not want to wait for the polling cycle to pass, you can temporarily set the polling rate to a short period of time or you can restart the connector.

## 4.3 Managing LDAP Groups

During installation of the Mobility Pack or Data Synchronizer, you specified one LDAP group container and added LDAP groups from that container. After installation, you might have configured Synchronizer Web Admin to search additional containers for LDAP groups, as described in [Section 3.1.1, “Searching Multiple LDAP Contexts for Users and Groups,” on page 13](#). Now you can add LDAP groups to a connector from any container that Synchronizer Web Admin has been configured to search.

- ◆ [Section 4.3.1, “Adding an LDAP Group to a Connector,” on page 48](#)
- ◆ [Section 4.3.2, “Updating an LDAP Group,” on page 49](#)
- ◆ [Section 4.3.3, “Deleting an LDAP Group,” on page 49](#)

### 4.3.1 Adding an LDAP Group to a Connector

---

**IMPORTANT:** If you are adding the LDAP group to the GroupWise Connector and the Mobility Connector, add the user to the GroupWise Connector first.

---

- 1 In [Synchronizer Web Admin](#), click the connector, then click *Groups*.



- 2 Click *Add Groups to Connector*.



- 3 Click *Search* to list the groups in LDAP containers that Synchronizer Web Admin has been configured to search.

You can configure Synchronizer Web Admin to search additional containers for groups, as described in [Section 3.1.1, “Searching Multiple LDAP Contexts for Users and Groups,” on page 13](#).

or



In the *Search Groups* field, type part of the group name, then click *Search*.

Close window ✕

Search Groups

Select Groups

Search results for "" (Showing 1-2 of 2 entries):

USERNAME	DN
<input type="checkbox"/> MobileExecutives	cn=MobileExecutives,ou=Users,ou=Docdev,o=Novell
<input type="checkbox"/> MobileDeviceUsers	cn=MobileDeviceUsers,ou=Users,ou=Docdev,o=Novell

Select All << 1 of 1 >>


Apply Profiles: None

Add


- 4 Select the LDAP group to add to the connector.
- 5 (Conditional) If you want to apply a user profile to the group of users, select the profile in the *Apply Profiles* drop-down list.  
For more information, see [Section 4.1, “Managing User Profiles,” on page 43](#).
- 6 Click *Add* to add the LDAP group to the connector.  
The group is immediately added to the connector.
- 7 Add the LDAP group to additional connectors to meet the data synchronization needs of the user in the group.

## 4.3.2 Updating an LDAP Group

By default, Synchronizer Web Admin polls the LDAP directory for group membership changes every 30 minutes, as described in [Section 3.1.3, “Adjusting the Synchronizer Web Admin Polling Rate for Groups,” on page 15](#). However, you can poll the LDAP directory immediately to get the latest updates.

- 1 In *Synchronizer Web Admin*, click  (*Manage Global Settings*).
- 2 Click *Poll LDAP Now*.

## 4.3.3 Deleting an LDAP Group

- 1 In *Synchronizer Web Admin*, click the connector where you want to delete the LDAP group, then click *Groups*.
- 2 In the *Groups* list, click  for the LDAP group to delete, then click *Yes* to confirm the deletion.
- 3 Repeat the process for each connector where you want to delete the LDAP group.

## 4.4 Auditing User Synchronization Activity


As your Synchronizer system grows and evolves, you might add a large number of users and groups. As time passes, some users might not need the same synchronization services as when you originally set up your Synchronizer system. You might want to know if there are users in your Synchronizer system who are not currently connecting and synchronizing.

You can check user activity in your Synchronizer system by performing a user audit. You can perform the audit on your entire Synchronizer system or on a specific connector. When you perform a global audit, users are listed based on their most recent activity on any connector. When you perform a connector-specific audit, users are listed based on their most recent activity on that specific connector.

The list includes the following information about each user:

- ♦ Connector name
- ♦ LDAP distinguished name
- ♦ Application user name
- ♦ Type (user or group)
- ♦ Last active

To audit Synchronizer users:

- 1 In [Synchronizer Web Admin](#), click  (*Global Audit*) to list all users in your Synchronizer system.  
or  
Click a specific connector, then click *Audit Users* to list all users that have been added to the selected connector.  
The resulting list provides the type (user or group), the distinguished name of each user or group, and application user name for users, and the date and time of the most recent activity for each user.
- 2 To save the listed data for use in a spreadsheet:
  - 2a Click *Export CSV*.
  - 2b Select *Save File*, then click *OK*.
  - 2c Browse to and select the directory where you want to save the file.
  - 2d (Optional) Change the file name as needed.
  - 2e Click *Save* to save the audit report in CSV format for use in a spreadsheet program.

Not all user activities on mobile devices are collected as part of the audit. For example, when users send and delete messages, these activities are captured as part of the audit. However, if users only view their mail and calendar items, these more passive activities are not captured as part of the audit. However, you can check to see when a specific user last connected to the Synchronizer system, as described in “[Managing Mobile Devices \(Resynchronize, Delete, Block, Reset\)](#)” in “[Synchronization Monitoring and Management](#)” in the *Mobility Connector Installation and Configuration Guide*.

## 4.5 Customizing General Connector Configuration Settings

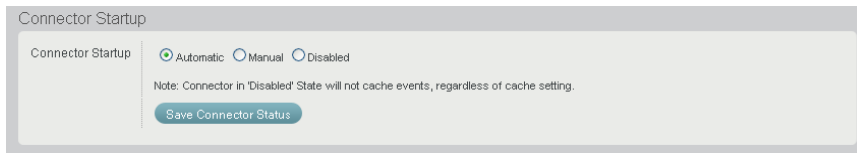
Some connector configuration settings are the same for all connectors.



- ♦ [Section 4.5.1, “Controlling Connector Startup,”](#) on page 51
- ♦ [Section 4.5.2, “Configuring Connector Filters,”](#) on page 51
- ♦ [Section 4.5.3, “Controlling Connector Logging,”](#) on page 52

### 4.5.1 Controlling Connector Startup

By default, connectors start automatically whenever you restart the Synchronizer services. You can change this behavior if necessary

- 1 In [Synchronizer Web Admin](#), click the connector that you want to change the startup setting for.
- 2 (Conditional) If necessary for the selected connector, scroll down to the *Connector Startup* section.



- 3 Select *Manual* so that the connector does not start automatically.
- 4 Click *Save Connector Startup*.
- 5 Click *Home* on the menu bar to return to the main Synchronizer Web Admin page.
- 6 In the *Actions* column for the selected connector, click  to stop the connector, then click  to start the connector with the new startup setting.

### 4.5.2 Configuring Connector Filters

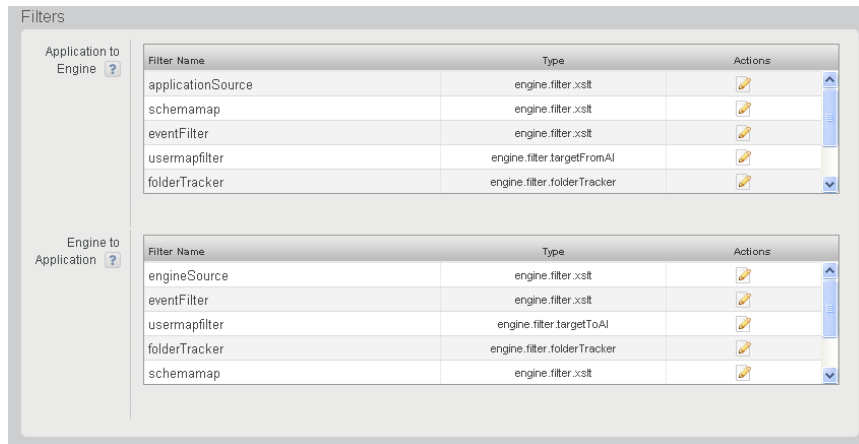
The connector filters are the mechanism by which data formatted for one application is transformed into application-neutral format for processing by the Sync Engine, then customized for use by a different connector. The default filters are appropriate for typical Synchronizer systems, but they can be edited if necessary.

---

**NOTE:** Changing the connector filters is not recommended unless you are a developer who is providing a customized implementation of a connector.

---

- 1 In [Synchronizer Web Admin](#), click the connector that you want to edit the filters for.
- 2 (Conditional) If necessary for the selected connector, scroll down to the *Filters* section.



- 3 Click (*Edit Filter*) for the filter that you want to modify to open the XSLT file for the filter.
- 4 Edit the XSLT file as needed to change the behavior of the filter, then click *Save XML* to save the modified filter file.

Modifying filters requires developer-level knowledge of XSLT and is beyond the scope of the *Novell Data Synchronizer Administration Guide*.

- 5 Click *Home* on the menu bar to return to the main Synchronizer Web Admin page.
- 6 In the *Actions* column for the selected connector, click to stop the connector, then click to start the connector with the modified filter.

### 4.5.3 Controlling Connector Logging

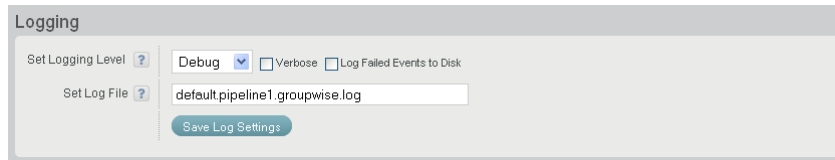
Each connector writes useful information to two log files, the connector application interface log file and the connector pipeline log file. You can control the amount of information that is written to the connector log file.

- ♦ [“Selecting a Log Level” on page 53](#)
- ♦ [“Using the Connector Application Interface Log File” on page 54](#)
- ♦ [“Using the Connector Pipeline Log File” on page 54](#)

## Selecting a Log Level

Each connector writes useful information to its connector log file (`default.pipeline1.connector_name.log`) You can control the amount of information that is written to the connector log file.

- 1 In [Synchronizer Web Admin](#), click the connector in the *Manage Connectors* section, then scroll to the *Logging* section



- 2 Select a log level.

- ♦ **Debug:** Logs large quantities of developer-level data. This log level is appropriate for troubleshooting purposes. It puts a heavy load on the connector and should be used only until the troubleshooting activities are completed.
- ♦ **Info:** Logs informational messages about normal connector processing. This log level is suitable for a Synchronizer administrator who wants to observe the functioning of the connector. However, it puts a heavier load on the connector than the Warning and Error log levels.
- ♦ **Warning:** Logs problems that should not adversely affect connector processing but should be investigated and resolved for optimum performance. This log level is appropriate for a smoothly running connector where you only want to be notified of warnings and errors.
- ♦ **Error:** Logs error messages that indicate critical errors in connector processing. This log level puts the least load on the connector because it logs only critical errors.

- 3 (Optional) Select *Verbose*.

You can select *Verbose* for any log level. Selecting *Verbose* adds event data to the messages regularly logged at the selected log level.

- 4 (Optional) Select *Log Failed Events to Disk*.

You can select *Log Failed Events to Disk* for any log level. Logging failed events to disk saves failed events (typically as XML files) in the following directory:

```
/var/lib/datasync/errors
```



Each event file is named using the event ID for the failed event, so that you can correlate messages about specific events with their associated event files. Information about failed events is helpful when you need to contact Support for assistance.

- 5 In the *File* field, specify the name of the connector log file.

By default, the name of the connector log file is `default.pipeline1.connector_name.log`.

- 6 Click *Save Log Settings*.

- 7 Click *Home* on the menu bar to return to the main Synchronizer Web Admin page.

- 8 In the *Actions* column for the selected connector, click  to stop the connector, then click  to start the connector with the selected logging level.

## Using the Connector Application Interface Log File

The connector application interface log file for each connector (`default.pipeline1.connector_name-AppInterface.log`) reports on problems that occur during event processing by the connector.


## Using the Connector Pipeline Log File

The connector pipeline log file for each connector (`default.pipeline1.connector_name.log`) reports on problems with the event XML files that transfer back and forth between the Sync Engine and the connector. It logs the results as events pass through filters and transformations.

## 4.6 Customizing Connector-Specific Configuration Settings

Connector-specific settings are described in each connector *Installation and Configuration Guide* ([http://www.novell.com/documentation/datasync\\_connectors1](http://www.novell.com/documentation/datasync_connectors1)).

## 4.7 Deleting a Connector

- 1 In *Synchronizer Web Admin*, click  to the right of the connector that you want to delete.
- 2 Click *Delete Connector* to confirm the deletion, then click *OK*.

This removes the connector from the list displayed in Synchronizer Web Admin, but it does not delete the connector software.

- 3 (Conditional) If you want to delete the connector software from the Synchronizer server, refer to the appropriate *Connector Installation and Configuration Guide* ([http://www.novell.com/documentation/datasync\\_connectors1](http://www.novell.com/documentation/datasync_connectors1)) for instructions.

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# 5 Synchronizer System Security

- ♦ [Section 5.1, “Security Administration,”](#) on page 55
- ♦ [Section 5.2, “Security Policies,”](#) on page 61

## 5.1 Security Administration

- ♦ [Section 5.1.1, “Securing Communication with the LDAP Server,”](#) on page 55
- ♦ [Section 5.1.2, “Securing Communication between the GroupWise Connector and the GroupWise POA,”](#) on page 55
- ♦ [Section 5.1.3, “Securing Communication between the Mobility Connector and Mobile Devices \(Mobility Pack Only\),”](#) on page 56
- ♦ [Section 5.1.4, “Selecting a Specific Version of SSL,”](#) on page 60

### 5.1.1 Securing Communication with the LDAP Server

If your GroupWise system is configured to use LDAP authentication when users access their GroupWise mailboxes, then your LDAP server is already set up for a secure SSL LDAP connection with your Synchronizer system. If you are not yet using LDAP authentication in your GroupWise system, but you want to use secure LDAP for communication with your Synchronizer system, the GroupWise documentation provides information to help you set this up. See [“Trusted Root Certificates and LDAP Authentication”](#) in [“Security Administration”](#) in the *GroupWise 2012 Administration Guide*.

You can enable and disable SSL for the LDAP connection on the Global Settings page in Synchronizer Web Admin. For instructions, see [Section 3.1.6, “Enabling and Disabling SSL for the Synchronizer LDAP Connection,”](#) on page 17.

### 5.1.2 Securing Communication between the GroupWise Connector and the GroupWise POA

The GroupWise Connector communicates with the GroupWise POA as a SOAP client. In order to secure communication between the GroupWise Connector and the GroupWise POA, the POA must be configured for secure SSL SOAP, as described in [“Supporting SOAP Clients”](#) in [“Post Office Agent”](#) in the *GroupWise 2012 Administration Guide*.

You can enable and disable SSL for the POA SOAP connections on the GroupWise Connector Configuration page in Synchronizer Web Admin. For instructions, see [“Enabling and Disabling SSL for POA SOAP Connections”](#) in [“GroupWise Connector Configuration”](#) in the *GroupWise Connector Installation and Configuration Guide*.

## 5.1.3 Securing Communication between the Mobility Connector and Mobile Devices (Mobility Pack Only)

In order to provide a secure SSL connection between the Mobility Connector and mobile devices, you must provide a server certificate on the Synchronizer server.

- ♦ [“Using a Self-Signed Certificate” on page 56](#)
- ♦ [“Using a Commercially Signed Certificate” on page 56](#)
- ♦ [“Manually Converting a Certificate to DER Format” on page 58](#)
- ♦ [“Manually Downloading a Certificate to a Mobile Device” on page 58](#)
- ♦ [“Enabling and Disabling SSL for Device Connections” on page 60](#)
- ♦ [“Enabling a Password Policy for Device Connections” on page 60](#)

For issues with specific types of certificates, see [Data Synchronizer Mobility Connector SSL Issues](http://wiki.novell.com/index.php/Data_Synchronizer_Mobility_Connector_SSL_Issues) ([http://wiki.novell.com/index.php/Data\\_Synchronizer\\_Mobility\\_Connector\\_SSL\\_Issues](http://wiki.novell.com/index.php/Data_Synchronizer_Mobility_Connector_SSL_Issues)).

For SSL issues with specific types of devices, see [Data Synchronizer Mobility Connector Devices](http://wiki.novell.com/index.php/Data_Synchronizer_Mobility_Connector_Devices) ([http://wiki.novell.com/index.php/Data\\_Synchronizer\\_Mobility\\_Connector\\_Devices](http://wiki.novell.com/index.php/Data_Synchronizer_Mobility_Connector_Devices)).

### Using a Self-Signed Certificate

When you have the Mobility Pack Installation program create a self-signed certificate for you, two certificate files are created in the `/var/lib/datasync/device` directory:

```
mobility.pem  
mobility.cer
```

When a mobile device connects to the Mobility Connector, the Mobility Connector passes the self-signed certificate file (`mobility.pem`) to the mobile device. In most cases, the mobile device accepts the self-signed certificate and connects successfully.

Some mobile devices do not automatically accept self-signed certificates in PEM format. If you choose to use a self-signed certificate and if users encounter connection problems with particular mobile devices, explain the procedure in [“Manually Downloading a Certificate to a Mobile Device” on page 58](#) to the users who are encountering connection problems. This procedure enables users to use the `mobility.cer` file instead of the `mobility.pem` file on their mobile devices.

The self-signed certificate generated by the Installation program is issued to “DataSync Web Admin” rather than to a specific hostname. Some mobile devices require that a self-signed certificate be associated with a specific hostname. You can use YaST to generate a self-signed certificate with a specific hostname. If you need assistance with this task, refer to [“Using YaST on Linux”](#) in [“Security Administration”](#) in the *GroupWise 2012 Administration Guide*. Complete Step 1 through Step 4. Do not complete Step 5. By default, YaST generates a single self-signed certificate file as required for use with your Synchronizer system.

### Using a Commercially Signed Certificate

---

**IMPORTANT:** You should obtain a commercially signed certificate for use with your Synchronizer system as quickly as possible.

---

- ♦ [“Selecting a Certificate Authority \(CA\)” on page 57](#)
- ♦ [“Obtaining the Certificate” on page 57](#)
- ♦ [“Removing a Password from a Key File” on page 57](#)



- ♦ “Combining Files Received from a Certificate Authority” on page 57
- ♦ “Installing a Commercially Signed Certificate” on page 58

For more detailed instructions, see TID 7006904: How to Configure Certificates from a Trusted CA for the Mobility Connector in the [Novell Support Knowledgebase](http://www.novell.com/support) (<http://www.novell.com/support>).

## Selecting a Certificate Authority (CA)

Choose a certificate authority (CA) from the many available on the Web. If you do not want to immediately purchase a certificate, free temporary certificates are available from several Web sites, including:

- ♦ [FreeSSL](http://www.freessl.com) (<http://www.freessl.com>)
- ♦ [Instant SSL](http://www.instantssl.com/ssl-certificate-products/free-ssl-certificate.html) (<http://www.instantssl.com/ssl-certificate-products/free-ssl-certificate.html>)
- ♦ [GlobalSign](http://www.globalsign.com/free-trial/free-ssl-certificate) (<http://www.globalsign.com/free-trial/free-ssl-certificate>)

## Obtaining the Certificate

When you have selected a certificate authority, request a certificate in PEM format. If necessary, you can use a chained certificate or a wildcard certificate with your Synchronizer system, although these more complex types of certificates are not recommended.

In order to obtain a certificate, you need to send the certificate authority a certificate signing request (CSR).

One way to generate a CSR is to use the GWCSRGEN Utility, as described in “[Generating a Certificate Signing Request](#)” in “[Security Administration](#)” in the *GroupWise 2012 Administration Guide*. Another way is to use the `openssl` command, as described in [HOWTO Keys](http://www.openssl.org/docs/HOWTO/keys.txt) (<http://www.openssl.org/docs/HOWTO/keys.txt>).

---

**NOTE:** If you use a different method to generate the CSR, you might be prompted for the type of Web server where you plan to install the certificate. Synchronizer uses the CherryPy Web server.

---

The certificate authority return one or more files to you. These files might require modification for use in your Synchronizer system. Save the files to a convenient location. If the certificate authority included a password, remove the password, as described in “[Removing a Password from a Key File](#)” on page 57. If the certificate authority provided multiple files, combine them into a single file, as described in “[Combining Files Received from a Certificate Authority](#)” on page 57.

## Removing a Password from a Key File

If the key file provided by the certificate authority includes a password, you need to remove the password in order to use the key file in your Synchronizer system.

- 1 Check to see if the key file includes a password.

A password-protected key file includes the following line:

```
Proc-Type: 4, ENCRYPTED
```

- 2 Use the following command to remove the password:

```
openssl rsa -in original_file_name.key -out passwordless_file_name.key
```

## Combining Files Received from a Certificate Authority

If you receive more than one file from the certificate authority, such as a certificate file and a key file, you must combine the contents into a single file with the following format:

```
-----BEGIN RSA PRIVATE KEY-----  
several_lines_of_private_key_text  
-----END RSA PRIVATE KEY-----  
-----BEGIN CERTIFICATE-----  
several_lines_of_server_certificate_text  
-----END CERTIFICATE-----
```

If the certificate authority provided an intermediate certificate, place it at the end of the file after the private key and the actual certificate.

## Installing a Commercially Signed Certificate

- 1 (Conditional) If you have been using a self-signed certificate, rename the existing `/var/lib/datasync/device/mobility.pem` file.
- 2 Copy the certificate file received the certificate authority to `/var/lib/datasync/device`.
- 3 Rename it to `mobility.pem`.
- 4 Restart the Mobility Connector.
- 5 (Conditional) If your particular mobile device does not automatically accept the commercially signed certificate in PEM format, follow the instructions in [“Manually Converting a Certificate to DER Format” on page 58](#).

---

**IMPORTANT:** If you uninstall the Synchronizer software, the certificate files associated with your Synchronizer system are also deleted. Back up commercially signed certificates in a location outside of `/var/lib/datasync` if you need to uninstall the Synchronizer software.

---

## Manually Converting a Certificate to DER Format

Some mobile devices do not automatically accept certificates in PEM format. If users encounter connection problems with particular mobile devices, you can convert the PEM file that you received from the certificate authority into DER format to resolve these connection problems.

- 1 Change to the `/var/lib/datasync/device` directory.
- 2 Execute the following command:

```
openssl x509 -in mobility.pem -inform PEM -out mobility.cer -outform DER
```

---

**NOTE:** The file name with the `.cer` extension must be in DER (Distinguished Encoding Rules) format.

---

- 3 Have users with connection problems follow the instructions in [“Manually Downloading a Certificate to a Mobile Device” on page 58](#) to use the `mobility.cer` file instead of the `mobility.pem` file.

## Manually Downloading a Certificate to a Mobile Device

- 1 Access the [Data Synchronizer User Options](#) page on your mobile device at the following URL:

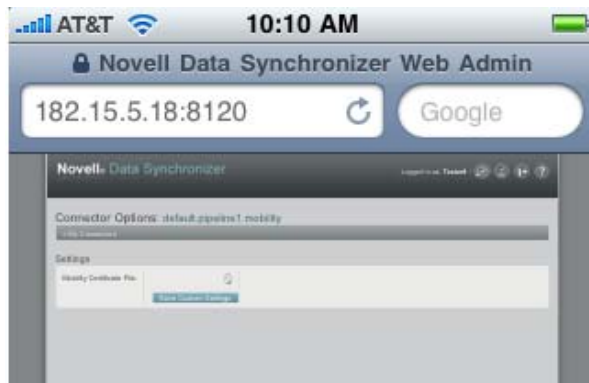
```
https://data_synchronizer_server:8120
```



Replace `data_synchronizer_server` with the IP address or DNS hostname of the Synchronizer server.

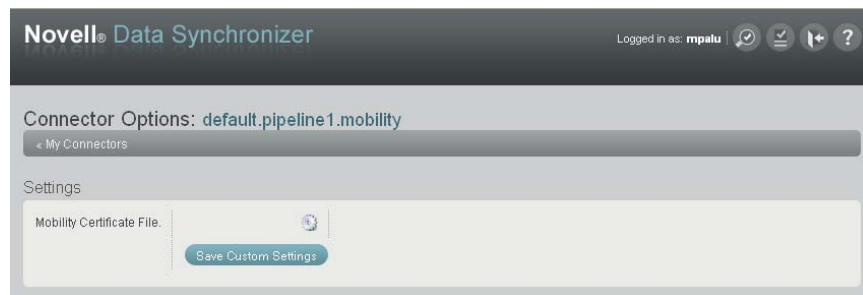
- 2 Log in using your network user name and password.



- 3 Click the Mobility Connector.



- 4 (Conditional) If you are the Synchronizer administrator and have associated your mobile device with the Synchronizer administrator account, click *Users*, then click  to display the *Mobility Certificate File* field.
- 5 In the *Mobility Certificate File* field, click  (*Download certificate file*).
- 6 Save the `mobility.cer` file to a convenient location on your mobile device.
- 7 Import the certificate file into the certificate store on your mobile device.  
For device-specific instructions, see the [Data Synchronizer Mobility Connector Devices Wiki](https://vibe.novell.com/vibe/groupwise_mobility_devices) ([https://vibe.novell.com/vibe/groupwise\\_mobility\\_devices](https://vibe.novell.com/vibe/groupwise_mobility_devices)).
- 8 (Conditional) If you are not able to access the [Data Synchronizer User Options](#) page from your particular mobile device:
  - 8a Access the [Data Synchronizer User Options](#) page in a Web browser on your Linux or Windows desktop.



- 8b** Save the `mobility.cer` file on your Linux or Windows workstation.
  - 8c** Set up an IMAP email account on your mobile device, then email the `mobility.cer` file from your workstation to your mobile device.
- or
- Physically connect your mobile device to your workstation so that it appears as a drive on your workstation, then copy the `mobility.cer` file from your workstation to your device.
- 9** Import the certificate file into the certificate store on your mobile device.

## Enabling and Disabling SSL for Device Connections

For instructions, see “[Enabling and Disabling SSL for Device Connections](#)” in “[Mobility Connector Configuration](#)” in the *Mobility Connector Installation and Configuration Guide*.

## Enabling a Password Policy for Device Connections

For instructions, see “[Enabling a Device Password Security Policy](#)” in “[Mobility Connector Configuration](#)” in the *Mobility Connector Installation and Configuration Guide*.

### 5.1.4 Selecting a Specific Version of SSL

By default, the Mobility Connector accepts connections from mobile devices that use SSLv3 and TLSv1, but rejects connections from mobile devices that use SSLv2. If a user’s mobile device tries to connect using SSLv2, the user receives an error and cannot connect. You can enable and disable different versions of SSL protocols and also specify the cipher to use with the desired protocol.

- 1** In [Synchronizer Web Admin](#), click the Mobility Connector to display the Mobility Connector Configuration page, then click *Edit XML Source* to display the Connector XML Source window.
- 2** Add the following tags between the `<custom>` and `</custom>` tags:

```
<sslMethod>value</sslMethod>
<sslCiphers>list</sslCiphers>
```

- 3** In the `<sslMethod>` tag, replace `value` with any of the following values:

SSL Version	Value
SSLv2	1 (not recommended)
SSLv3	2
TLSv1	4
All of the above	3 (not recommended)
SSLv3 and TLSv1	5 (default)

- 4** In a terminal window, use the following command to determine the ciphers that are available on your system:

```
openssl ciphers -ssl3
```
- 5** In the `<sslCiphers>` tag in the Connector XML Source window, replace `list` with the desired values as provided by the `openssl` command.

- 6 Click *Save XML* to save your changes, then click *Home* to return to the main Synchronizer Web Admin page.
- 7 Restart the Mobility Connector to put the desired SSL protocol and ciphers into effect.

## 5.2 Security Policies

- ♦ [Section 5.2.1, “Securing Your Synchronizer Data,” on page 61](#)
- ♦ [Section 5.2.2, “Securing Your Synchronizer System,” on page 61](#)

### 5.2.1 Securing Your Synchronizer Data

- ♦ [“Limiting Physical Access to Synchronizer Servers” on page 61](#)
- ♦ [“Securing File System Access” on page 61](#)

#### Limiting Physical Access to Synchronizer Servers

Servers where Synchronizer data resides should be kept physically secure, where unauthorized persons cannot gain access to the server consoles.

#### Securing File System Access

Encrypted file systems should be used on all Synchronizer servers. Only Synchronizer administrators should have direct access to Synchronizer data.

### 5.2.2 Securing Your Synchronizer System

- ♦ [“Setting Up SSL Connections” on page 61](#)
- ♦ [“Setting Up a Device Password Security Policy \(Mobility Pack Only\)” on page 62](#)
- ♦ [“Securing Synchronizer Web Admin” on page 62](#)
- ♦ [“Protecting Synchronizer Configuration Files” on page 62](#)
- ♦ [“Protecting Synchronizer Log Files” on page 62](#)

#### Setting Up SSL Connections

Secure SSL connections should be used between your Synchronizer system and the following external components:

- ♦ LDAP server
- ♦ GroupWise Post Office Agent (POA)
- ♦ Browser connection for Synchronizer Web Admin
- ♦ Mobile devices (Mobility Pack only)

For instructions, see [Section 5.1, “Security Administration,” on page 55](#).

## Setting Up a Device Password Security Policy (Mobility Pack Only)

To increase your control over mobile device access to your Synchronizer system, you should establish a device password security policy to ensure that users set up secure passwords on their mobile devices. For instructions, see “[Enabling a Device Password Security Policy](#)” in “[Mobility Connector Configuration](#)” in the *Mobility Connector Installation and Configuration Guide*.

## Securing Synchronizer Web Admin

One Synchronizer administrator is established when you install the Mobility Pack or Data Synchronizer. Additional users can be granted Synchronizer administrator rights, as described in [Section 3.1.2, “Setting Up Multiple Synchronizer Administrator Users,” on page 14](#), but this should be done judiciously.

## Protecting Synchronizer Configuration Files

The configuration files for all Synchronizer components should be protected from tampering. Configuration files are found in the following default locations:

Synchronizer Component	Configuration File
Sync Engine	/etc/datasync/syncengine/engine.xml
Web Admin	/etc/datasync/webadmin/server.xml
Config Engine	/etc/datasync/configengine/configengine.xml
Connector Manager	/etc/datasync/syncengine/connectors.xml

## Protecting Synchronizer Log Files

The log files for all Synchronizer components should be protected against access by unauthorized persons. Some contain very detailed information about your Synchronizer system and users. Synchronizer log files are found in the following locations:

Synchronizer Component	Log File
Sync Engine	/var/log/datasync/syncengine/engine.log
Web Admin	/var/log/datasync/webadmin/server.log
Config Engine	/var/log/datasync/configengine/configengine.log
Connector Manager	/var/log/datasync/syncengine/connector-manager.log
Connectors	/var/log/datasync/connectors/ default.pipeline1.connector_name.log default.pipeline1.connector_name-AppInterface.log

---

# A Synchronizer System Troubleshooting

- ♦ [“Synchronizer Web Admin cannot communicate with the LDAP server” on page 63](#)
- ♦ [“The process of adding users does not proceed as expected” on page 63](#)

## Synchronizer Web Admin cannot communicate with the LDAP server

**Explanation:** In order for Synchronizer Web Admin to list users to add to connectors, it must be able to communicate with your LDAP server. If Synchronizer Web Admin cannot list users, it indicates that it cannot communicate with your LDAP server.

**Possible Cause:** A firewall is blocking communication between the Web Admin service and the LDAP server.

**Action:** Make sure that communication through the firewall is allowed on port 636 for a secure LDAP connection or port 389 for a non-secure LDAP connection.

**Possible Cause:** The LDAP server is not functioning correctly.

**Action:** Reboot the LDAP server.

## The process of adding users does not proceed as expected

**Explanation:** When you add a large number of users to a connector as a group, Synchronizer Web Admin might not display progress as expected. Refreshing the page might give an invalid server error.

**Possible Cause:** A timing issue between the add user process and the display of the Synchronizer Web Admin page occasionally causes this problem.

**Action:** Use a phased approach that avoids occasional timing issues.

- 1** In Synchronizer Web Admin, stop the GroupWise Connector and the Mobility Connector.
- 2** In Synchronizer Web Admin, add the LDAP group to the GroupWise Connector.
- 3** In a terminal window, access the Synchronizer database (datasync):
  - 3a** Log in as root.
  - 3b** Access the Synchronizer database:

```
psql -U datasync_user datasync
```
  - 3c** Enter the Synchronizer database password.

- 4 At the `datasync=>` prompt, verify that all of the users in the LDAP group are successfully added to the GroupWise Connector.
  - 4a List the number of users who have been added to the GroupWise Connector.
 

```
select count(*) from targets;
```

This number includes the LDAP group.
  - 4b Repeat the `select` command until the number of users that have been added to the GroupWise Connector matches the number of users in the LDAP group.
- 5 In Synchronizer Web Admin, start the GroupWise Connector.
- 6 In Synchronizer Web Admin, add the LDAP group to the Mobility Connector.
- 7 At the `datasync=>` prompt, verify that users are added to the Mobility Connector:
  - 7a Repeat the `select` command until the number of users has doubled (the same set of users added to two connectors).
  - 7b List all of the users and the connectors to which they have been added:
 

```
select dn,"connectorID",
        disabled from targets order by dn;
```

All users who have a 0 (zero) in the *Disabled* column have been successfully added to the connector listed in the *Connector ID* column.
- 8 At the `datasync=>` prompt, verify the users in the Mobility database (`mobility`):
  - 8a Change to the Mobility Connector database:
 

```
\c mobility
```
  - 8b List the number of users who have been added to the Mobility Connector:
 

```
select count(*) from users;
```

This number includes only the number of users who have been added to the Mobility Connector.
  - 8c When finished, exit from the database.
 

```
\q
```
- 9 In Synchronizer Web Admin, start the Mobility Connector.



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# B Documentation Updates

This section lists updates to the *Novell Data Synchronizer System Administration Guide* that have been made since the initial release of the Mobility Pack and Data Synchronizer. The information helps you to keep current on documentation updates and software updates.

The information is grouped according to the date when the *Novell Data Synchronizer Administration Guide* was republished. Within each dated section, the updates are listed by the section title.

The *Novell Data Synchronizer Administration Guide* has been updated on the following dates:

- ♦ [Section B.1, "August 22, 2012 \(Mobility Pack 1.2.4\)," on page 65](#)
- ♦ [Section B.2, "February 28, 2012 \(Mobility Pack 1.2.2\)," on page 65](#)
- ♦ [Section B.3, "August 4, 2011 \(Mobility Pack 1.2\)," on page 66](#)
- ♦ [Section B.4, "June 2, 2011 \(Mobility Pack 1.1.2\)," on page 66](#)
- ♦ [Section B.5, "March 2, 2011 \(Mobility Pack 1.1\)," on page 66](#)

## B.1 August 22, 2012 (Mobility Pack 1.2.4)

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Location	Change
<b>Synchronizer System Management</b>	
<a href="#">Section 3.5.2, "Log File Rotation," on page 26</a>	Explained how to change the compression method for log files.

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## B.2 February 28, 2012 (Mobility Pack 1.2.2)

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Location	Change
<b>Synchronizer System Management</b>	
<a href="#">Section 3.4, "Monitoring Disk Space Usage," on page 25</a>	Explained the new <code>datasync-diskcheck.sh</code> script.
<b>Connector and User Management</b>	
<a href="#">Section 4.3.2, "Updating an LDAP Group," on page 49</a>	Explained the new <i>Poll LDAP Now</i> button.

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## B.3 August 4, 2011 (Mobility Pack 1.2)

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Location	Change
<b>Synchronizer Web Admin</b>	
<a href="#">Chapter 2, "Synchronizer Web Admin," on page 9</a>	Updated the Synchronizer Web Admin URL.
<b>Synchronizer System Management</b>	
<a href="#">Section 3.5.11, "NTS supportconfig Utility," on page 33</a>	Explained the Synchronizer plug-ins that integrate with the NTS supportconfig utility.

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## B.4 June 2, 2011 (Mobility Pack 1.1.2)

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Location	Change
<b>Accessing Synchronizer Web Admin</b>	
<a href="#">Chapter 2, "Synchronizer Web Admin," on page 9</a>	Updated the Synchronizer Web Admin URL.
<b>Managing a Synchronizer System</b>	
<a href="#">Section 3.8, "Backing Up Your Synchronizer System," on page 36</a>	Added examples of how to back up and restore your Synchronizer system.
<a href="#">Section 3.9, "Reconfiguring Your Synchronizer System to Reflect Network Changes," on page 39</a>	Added instructions for changing the IP address of the Synchronizer server and for changing the LDAP server password.
<b>Managing Connectors and Users</b>	
<a href="#">Section 4.2.5, "Deleting a User from a Connector," on page 47</a>	Added a step for making sure that the connector is running before you delete a user from it.

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## B.5 March 2, 2011 (Mobility Pack 1.1)

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Location	Change
<b>Accessing Synchronizer Web Admin</b>	
<a href="#">Section 3.5.1, "Log File Overview," on page 26</a>	Corrected the list of files that control log rotation.
<b>Managing a Synchronizer System</b>	

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Location	Change
<a href="#">Section 4.4, "Auditing User Synchronization Activity," on page 50</a>	Clarified that not all user activities on mobile devices are collected by the audit process.
<b>Managing Connectors</b>	
<a href="#">Section 4.4, "Auditing User Synchronization Activity," on page 50</a>	Clarified that not all user activities on mobile devices are collected by the audit process.
<b>Security</b>	
<a href="#">Section 5.1.4, "Selecting a Specific Version of SSL," on page 60</a>	Indicated that SSLv2 is now disabled by default for tighter security.
<a href="#">"Setting Up a Device Password Security Policy (Mobility Pack Only)" on page 62</a>	Emphasized the importance of setting up a device password security policy.
<b>Troubleshooting</b>	
<a href="#">"The process of adding users does not proceed as expected" on page 63</a>	Corrected a typographical error in <a href="#">Step 7b</a> .

