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IBM WebSphere Everyplace Access V5 Handbook for Developers and Administrators

Volume III: E-Mail and Database Synchronization

- Synchronize DB2 Everyplace data and server-side DB2 databases
- Synchronize Domino and Exchange e-Mail
- Synchronize with JDBC databases



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First Edition (April 2005)

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Preface

This IBM® Redbook is part of a series of four volumes related to WebSphere® Everyplace® Access Version 5.0. These redbooks help you plan, install, administer, and develop mobile applications to run in a WebSphere Everyplace Access Version 5.0 environment. The information provided in these redbooks targets business-to-employee (B2E) enterprise applications, but most of the scenarios presented will apply to business-to-consumer (B2C) applications as well. In these redbooks, you will find step-by-step examples and scenarios showing ways to integrate your enterprise applications into a WebSphere Everyplace Access environment using the WebSphere Studio Site Developer and the Everyplace Toolkit, as well as extend your online and offline application capabilities to use other advanced functions.

In this book you will also find step-by-step sample scenarios showing ways to synchronize Domino® and Microsoft® Exchange e-Mail servers as well as relational JDBC databases with DB2® Everyplace databases on your client devices such as Pocket PCs and Palm devices.

A basic knowledge of Java™ technologies such as servlets, JavaBeans, EJBs, JavaServer Pages (JSPs), as well as XML applications and the terminology used in Web publishing, is assumed.

The following IBM WebSphere Everyplace Access V5 redbooks are part of this offering:

- *IBM WebSphere Everyplace Access V5 Handbook for Developers and Administrators Volume I: Installation and Administration*, SG24-6462
- *IBM WebSphere Everyplace Access V5 Handbook for Developers and Administrators Volume II: Application Development*, SG24-6463
- *IBM WebSphere Everyplace Access V5 Handbook for Developers and Administrators Volume III: E-Mail and Database Synchronization*, SG24-6676
- *IBM WebSphere Everyplace Access V5 Handbook for Developers and Administrators Volume IV: Advanced Topics*, SG24-6677

The team that wrote this redbook

This redbook was produced by a team of specialists from around the world working at the International Technical Support Organization, Raleigh Center.

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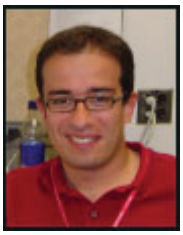
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1

PIM and e-mail synchronization with Domino Server

This chapter provides information about using Everyplace Synchronization Server (ESS). The Everyplace Synchronization Server is a scalable solution for synchronizing personal information management (PIM) data between mobile devices and the Lotus® Domino Server. The Synchronization Server leverages the proven technology of TrueSync. TrueSync is an embedded synchronization engine on which IBM has built a flexible adapter framework to provide synchronization with various servers, regardless of the platform or format of the data. To support multiple platforms, Synchronization Server uses the Java 2 platform (J2EE) and the SyncML 1.1.1 protocols between the Synchronization Server and mobile devices. Mobile devices can establish either a wireless or wired connection to synchronize data over the Internet, a Wireless network, an intranet, a local area network (LAN), or a wide area network (WAN) using TCP/IP. Topics covered in this chapter included:

- Overview
- How it works
- Configuration
- Sample scenario
- Hints and tips

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1.1 Overview

Today, the need for mobile users is to reach their PIM and e-mail, and update their records (calendar, memo, etc.) from everywhere, even if they are offline. ESS allows all this: The mobile device users share PIM and e-mail data between their devices and their company mail servers using SyncML protocols and messages exchange.

ESS is a PIM and e-mail SyncML compliant Synchronization Server. The current server SyncML level is 1.1.1, and includes some SyncML 1.2 features (for example, suspend-resume), and is backward compatible with older clients.

1.2 How it works

ESS interfaces with Domino (5.0.12 to 6.5.1) thanks to a special adapter, and utilizes WebSphere Portal Server for user management, security, server administration, and definition of user synchronization preferences.

With this solution we can synchronize PIM (contacts, tasks, calendar, memos, etc.) and e-mail data with the IBM Everyplace client and native SyncML clients.

Thanks to a special portlet, it is possible to choose a personal profile and define preferences and how conflicts are to be resolved during the synchronization process. You may synchronize your e-mail account with several devices, and you may define unique profiles for each of those devices.

A PIM adapter is provided (the *Lotus Domino Adapter*). It can synchronize with any number of Lotus Domino servers that are in the same domain.

To use the e-mail synchronization system, a valid WEA user is necessary; therefore, a user needs a user ID to log in to WEA, and also an ID to log in to his Lotus Domino e-mail server. The WEA user ID is used to identify the user to WEA, and his mail server ID is used by WEA to identify the account from which mail will be retrieved.

Once all user ID and password information is available to WEA, WEA then uses the NotesID to connect to the e-mail system as an administrator and access the user's PIM e-mail data.

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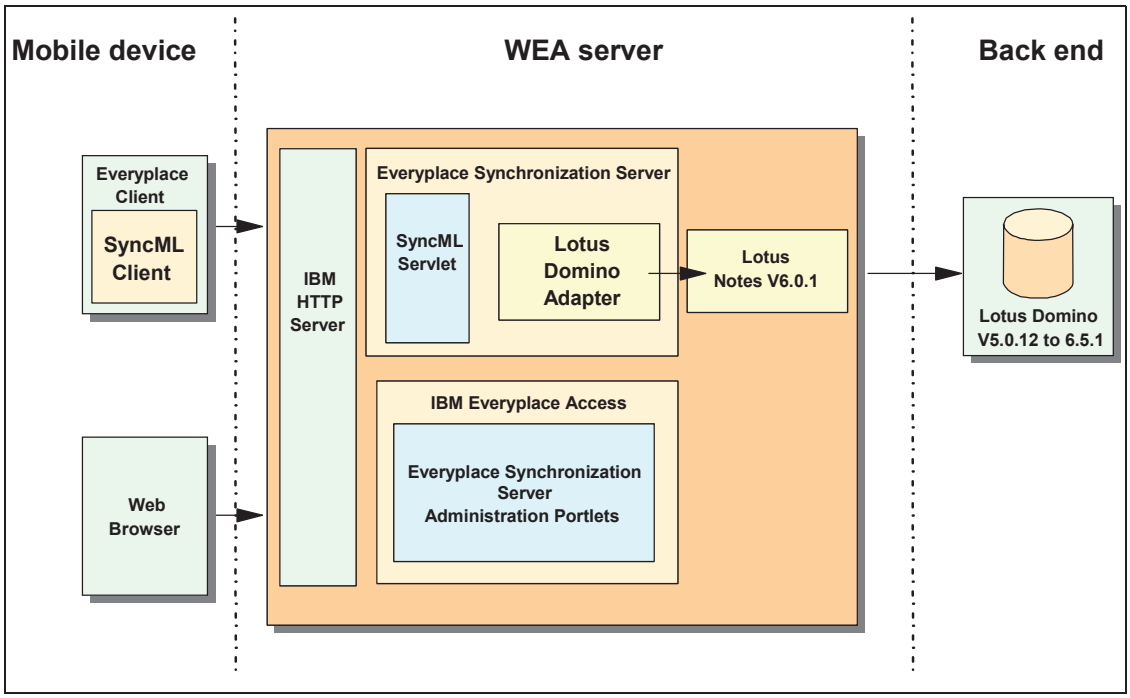


Figure 1-1 Everyplace Synchronization Server

ESS contains two main server components: Synchronization Server and Everyplace Synchronization Server enterprise application. The first one contains the PIM adapter for connecting to the backend server, while the second one contains the SyncML servlet, which handles the synchronization process.

Note: Both server components must be up and running to use synchronization capabilities.

The Synchronization Server is managed by the synchronization service. It is possible to verify the status of the server to the Manage Server portlet: You can start and stop Synchronization Server from this portlet. Also, this portlet shows the configured PIM servers and their settings and status.

Once WebSphere Everyplace Access is connected to the Domino Server, WebSphere Everyplace Access uses the Lotus Domino user ID of the individual to retrieve PIM and e-mail data. However, before WebSphere Everyplace Access can do this:

- The Adapter Admin ID must be configured to have read access to the Public Name and Address Book (names.nsf) on the Lotus Domino Server. The

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address book must include the short name, user name, and Internet password for every user who uses ESS to synchronize Lotus Domino documents.

- The Lotus Domino mail database for each user must grant *manager access* and *ability to delete* to the ID. In addition to this, the maximum Internet name and password must be set to Editor or Manager.

After synchronization, the user can access and update his PIM and e-mail data. Any updates made will be stored on the client device until the next synchronization.

1.3 Configuration

Configuring the Everyplace Synchronization Server for synchronization with a Lotus Domino Server involves the following:

- Configure the Lotus Notes® client on the Synchronization Server on a Windows® machine.
- Verify that HTTP and DIIOP tasks are always started.
- Domino Server configuration: Provide the full host name for each Domino Server in the names.nsf file.
- Create the Administrator user.
- Configure template inheritance on the user's Lotus Notes client.
- Add the Domino administration ID to the ACL of the mail.box database.
- Configure Lotus Notes for the user.
- Configure the Websphere Everyplace Access server.
- Configure the user portlets.
- Synchronize e-mail between a Domino server and a PDA.

1.3.1 Lotus Notes client configuration

A prerequisite for the Lotus Domino adapter is that the Lotus Notes client is installed in the same computer, because it is used by the Synchronization Server and the Lotus Domino adapter to communicate with the Lotus domino e-mail database that users synchronize with.

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Note: The Notes client that is installed on the ESS server machine is only intended to be used internally by ESS. It is not intended as a general-use client, and so following installation of the client you will find that the Notes icon on the desktop will not successfully bring up the client.

However, to permit the use of the Notes client icon you can do one of the following

- Add the NotesData directory to the system PATH environment variable (by default, C:\Program Files\WebSphere\IBMSyncServer\NotesData).
- Change the Start in field in the Notes icon to point to the NotesData directory.
- Create a new icon for C:\Program Files\Lotus\Notes\notes.exe that specifies the NotesData directory as the location of the notes.ini file. This is done by setting the Target field in the icon to specify “C:\Program Files\Lotus\Notes\notes.exe" "=C:\Program Files\WebSphere\IBMSyncServer\NotesData\notes.ini".

Installation of the Lotus Notes client sets up the procedure automatically, if the administrator ID for the Domino server can authenticate synchronization users. If it cannot, the steps must be performed manually.

1. After installing Synchronization Server, start the Lotus Notes client running on Synchronization Server and switch to the administrator ID.
2. Select **File** → **Preferences** → **User Preferences**.
3. Select the **Ports** tab on the left column of the dialog.
4. Ensure that the check boxes below TCPIP are *not* checked (that is, the ports are disabled).

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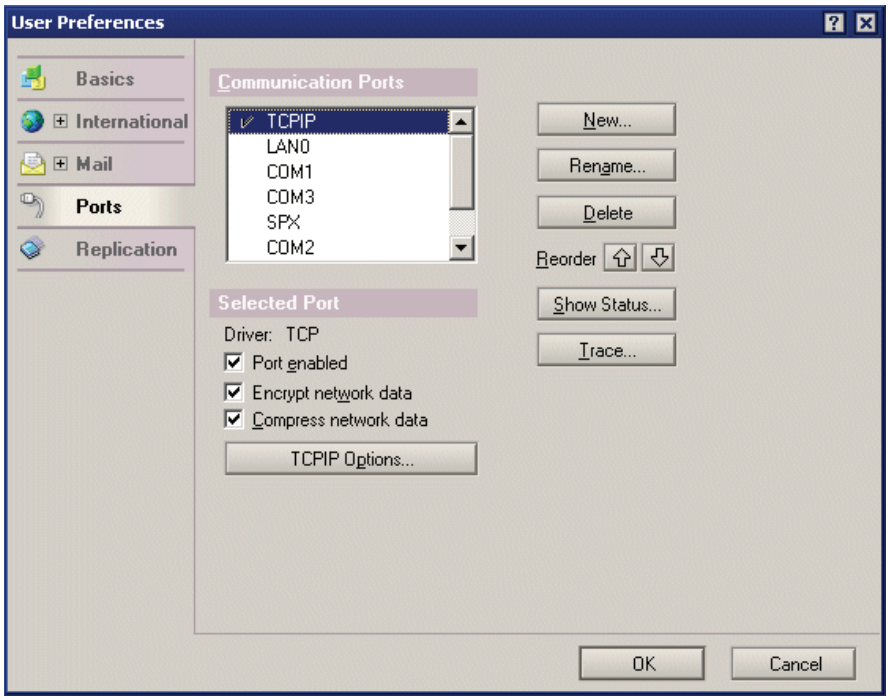


Figure 1-2 User Preferences - Ports tab

5. Restart the Notes client (and ESS if it is running).
6. Open the local address book (Server = Local / Filename = *names.nsf*).
7. From the menu choose **View** → **Advanced** → **Locations**.
8. Open your current location document, which is "Office (Network)" by default. (The current location is shown at the bottom right corner of the Notes client.)
9. Click the **Edit Location** button.
10. Select the **Servers** tab.
11. In the Home/Mail Server field, enter the fully qualified name of the Domino server that contains the Domino Directory capable of authenticating your synchronization users, in this example it is wea5e. Verify that all other fields on the Servers tab are blank.

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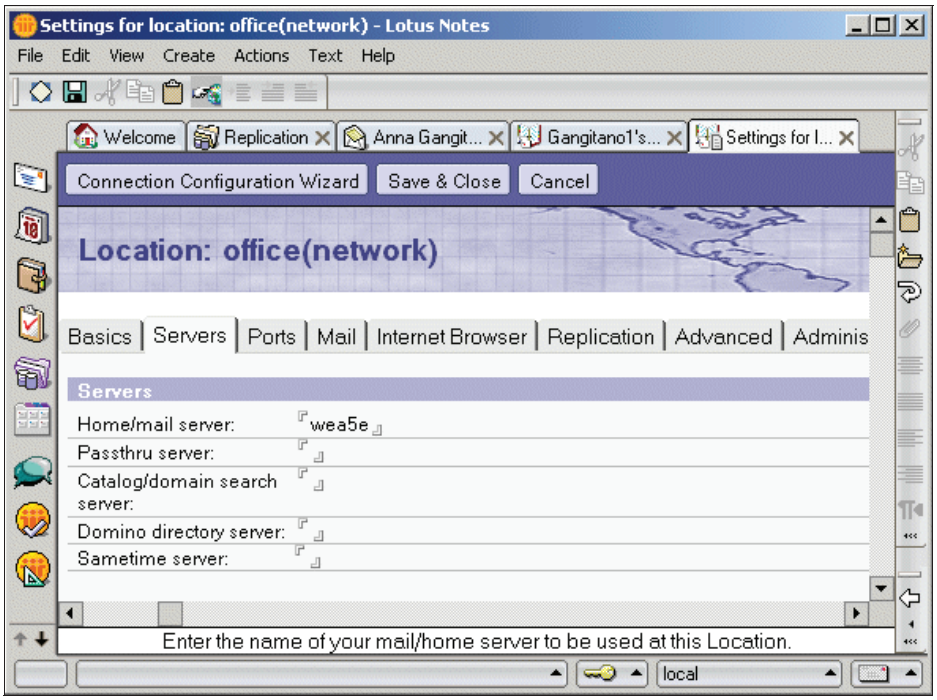


Figure 1-3 Connection Configuration Wizard - Servers tab

12. Go to the Basics tab.
13. In the Location Type field, click **Local Area Network**.
14. Save and close the location document.

The following error message in the Synchronization Server message logs indicates the need to complete this step:

```
*** ESM_DCA_610 ERROR Content Adapter Exception *** Public address book
cannot be found by this Notes client. Location Document - need a valid
value for Home/Mail Server, that has name and address book for the users
sync'ing with domino
```

1.3.2 Lotus Domino server configuration

The Lotus Domino Server, where PIM and e-mail data will be retrieved from, must be first installed. For sample instructions on installing the Lotus Domino Server see *IBM WebSphere Everyplace Access V5 Handbook for Developers and Administrators Volume I: Installation and Administration*, SG24-6462. It is

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recommended that you use Lotus Domino Version 5.0.12 or later. Once the installation is complete, the following configuration steps can be performed.

Verify HTTP and DIIOP tasks are always started

The Lotus Domino DIIOP PIM portlets require HTTP and DIIOP to retrieve PIM and e-mail data. We need to verify that both the HTTP and DIIOP tasks are started when the Domino Server is started.

1. Open the file <Domino_root>\notes.ini, where <Domino_root> is the directory where Domino is installed on the server.
2. Search for the parameter ServerTasks.
3. Verify that the parameter values includes `HTTP` and `DIIOP`. If the values are not there, add them. For example:

   ```
   ServerTasks=<other tasks>,HTTP,DIIOP
   ```

4. Save your changes.
5. When you restart the Domino Server, you should see messages in the console indicating that these tasks have started.

Provide full host name

For every Domino server you plan to use, the fully qualified Internet hostname must be entered in the names.nsf file. It includes the authentication server and any Lotus Domino e-mail database servers.

Usually the names.nsf file is populated automatically, but it is a good rule to make sure of it, performing the following steps for each Lotus Domino server:

1. From Lotus Notes, open the names.nsf file (click **File** → **Database** → **Open** and select the current Domino Server).
2. Select **IBM's Directory** and click **Open**.

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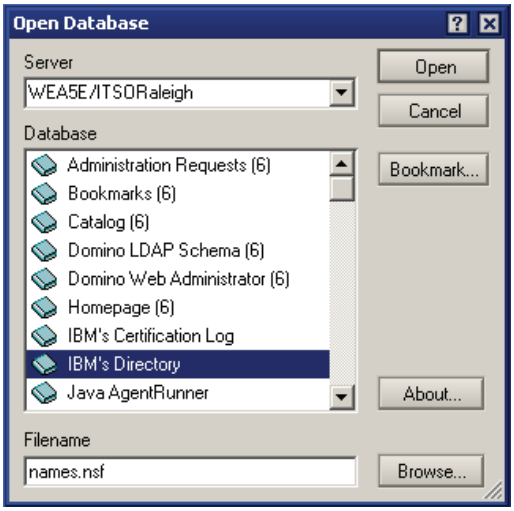


Figure 1-4 Opening database

3. In the left panel, click **Configuration** → **Servers** → **All Server documents**.
4. Double-click the server name (WEA5E/ITSORaleigh in this example).

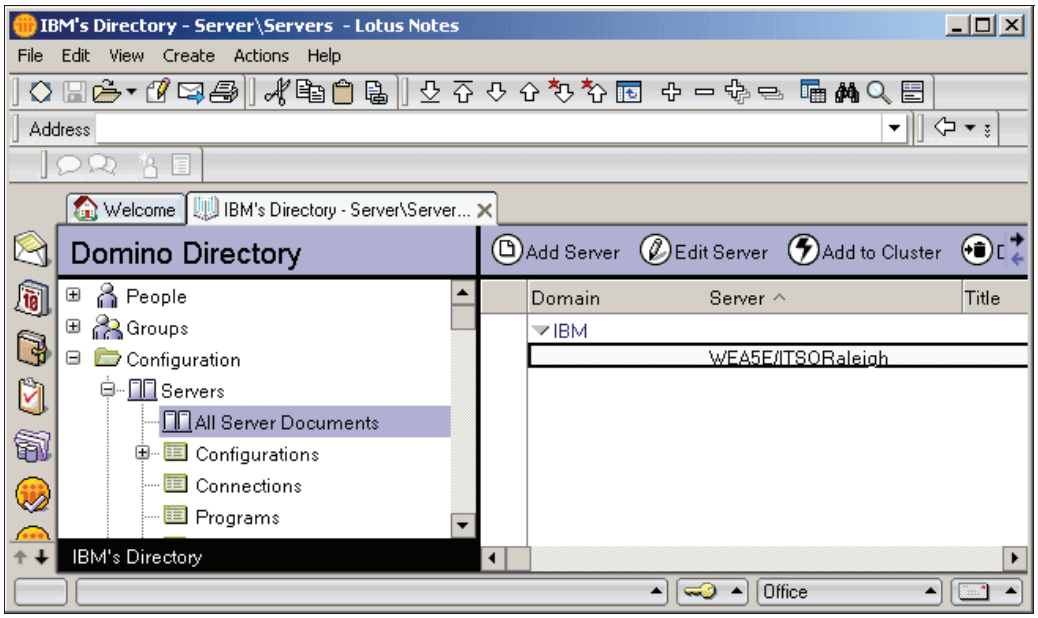


Figure 1-5 Domino Directory - Servers list

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5. Click **Edit Server** on top to make an adjustment.
6. In the **Basics** tab, if it is not already entered, enter the fully qualified Internet host name for the server.

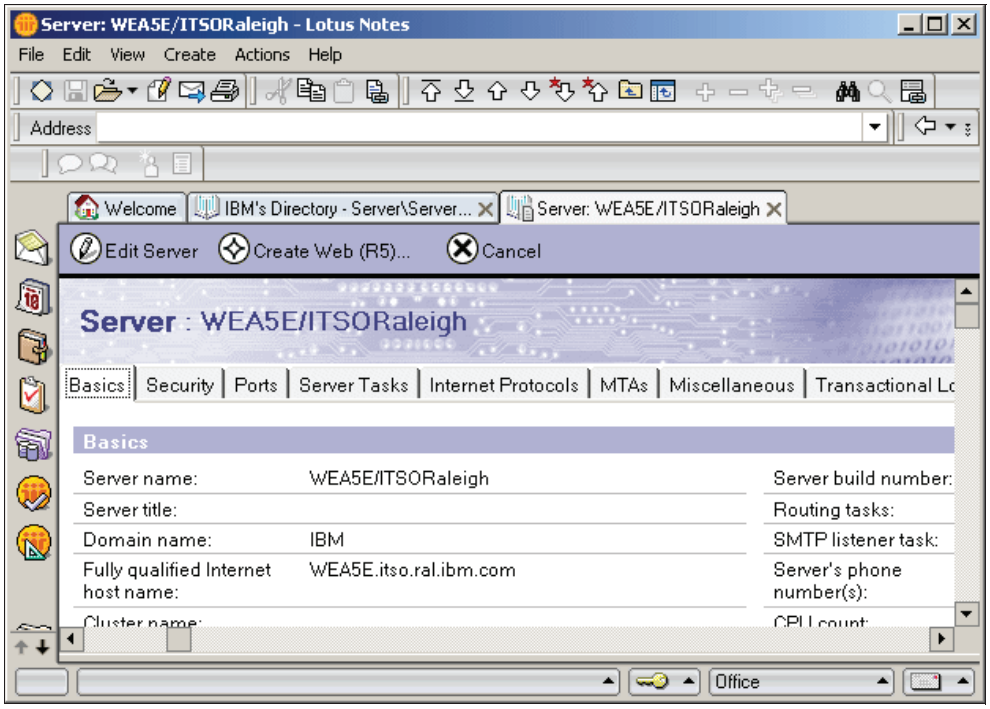


Figure 1-6 Edit server - Basic tab

7. Click the **Security** tab. Add the Administrator group to the Create new replicas database field.

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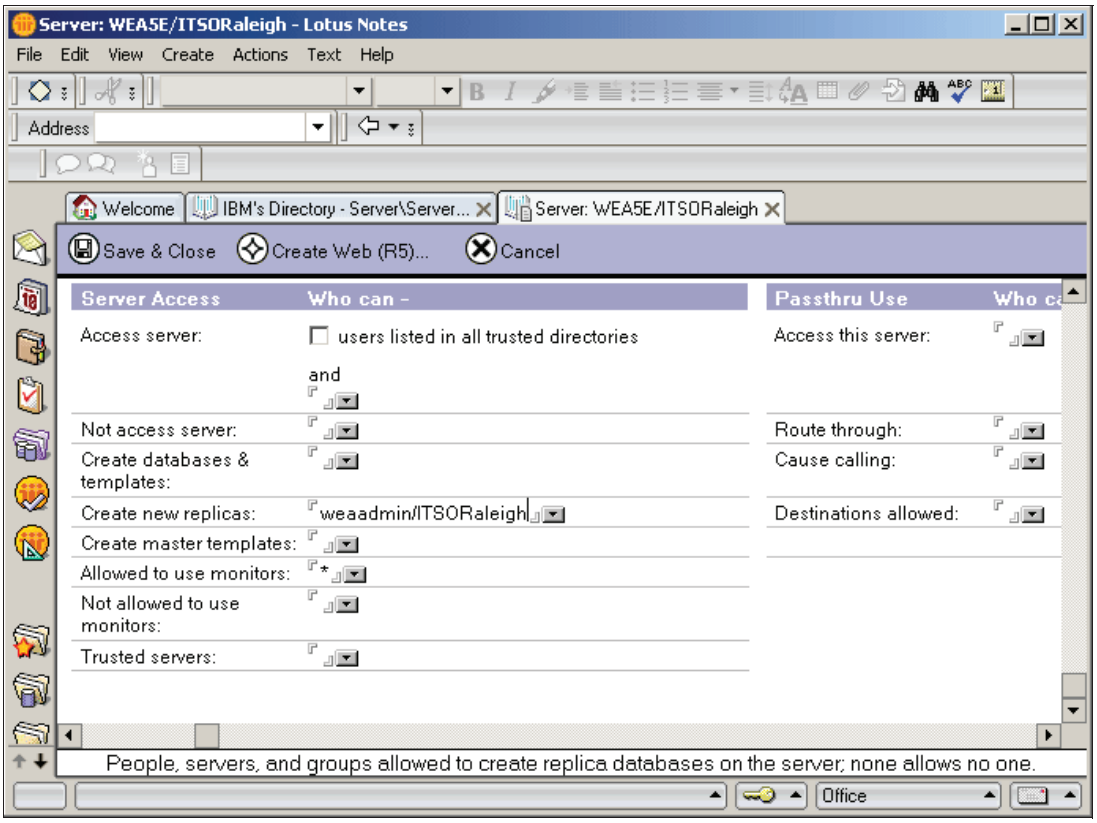


Figure 1-7 Edit server - Security tab

8. Click the **Administration** tab and add * to the Owner and Administrators field. (Optional) Note that to access the e-mail with iNotes™ (Web access) or from the WEA portal using the portlets, you will need to use the full user name. Instead, if you want to use the short name/user ID, you must edit the following information on the server: On the Security tab, in the Internet Access section, change to “More name variations with lower security.”

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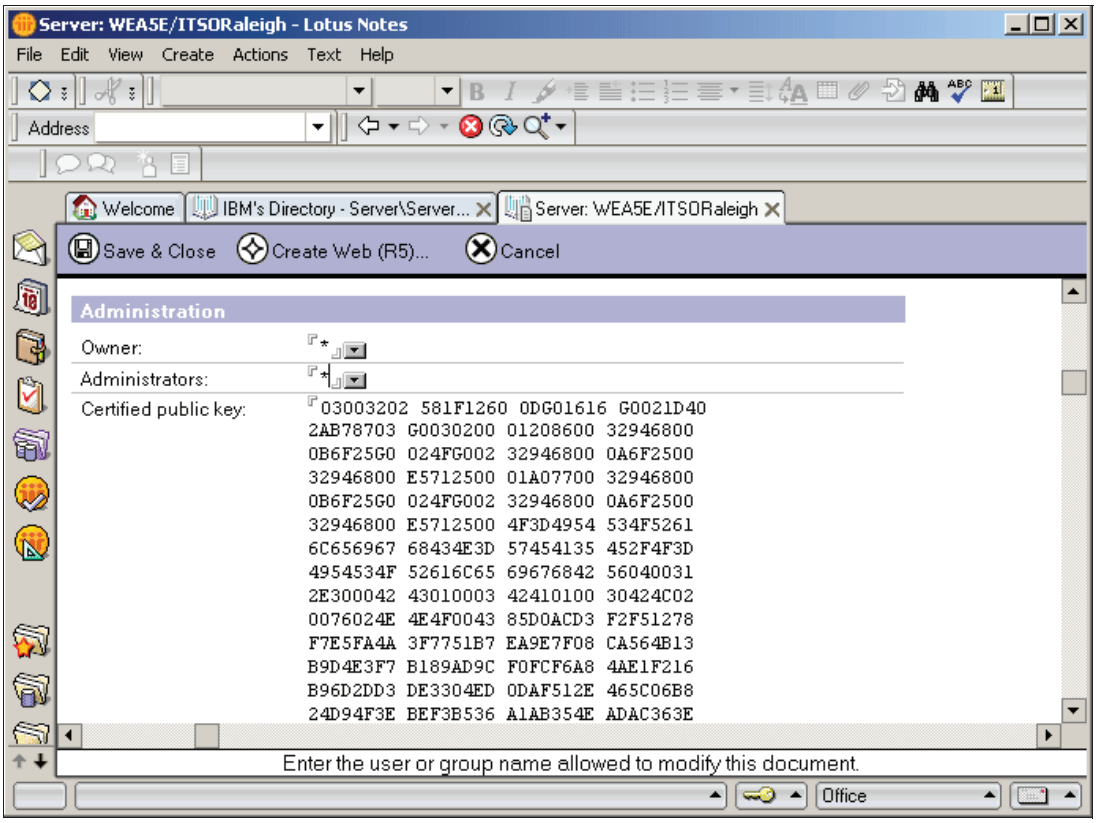


Figure 1-8 Edit server - Administration tab

9. Click **Save and Close** to finish.
10. Restart the Domino Server.

Create the ESSadmin user

To read and write data to and from the Lotus Domino servers, the Lotus Domino Adapter requires a global Lotus Notes ID that has read and write access to all Lotus Domino servers that are synchronized through the Synchronization Server. The Lotus Domino Adapter uses this ID to gain access to Lotus Domino servers during each synchronization. The Lotus Notes password is set in the Lotus Notes ID file and is associated with the Lotus Notes Client.

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Note: The Lotus Domino Adapter uses this administrator ID to gain access to the Lotus Domino servers during each read or write to or from the databases. Changing this administrator ID to an invalid value causes synchronization to fail. You must coordinate changing this ID or password with the administrators of your backend servers.

Therefore, we need to create a user that will be used by the Lotus Domino Adapter to connect to the Lotus Domino Server. This user will need to belong to the Administrators group.

1. Using the Lotus Domino Administrator client, Select **Administration** → **People & Groups**.
2. Select **People** → **Register** on the right side.

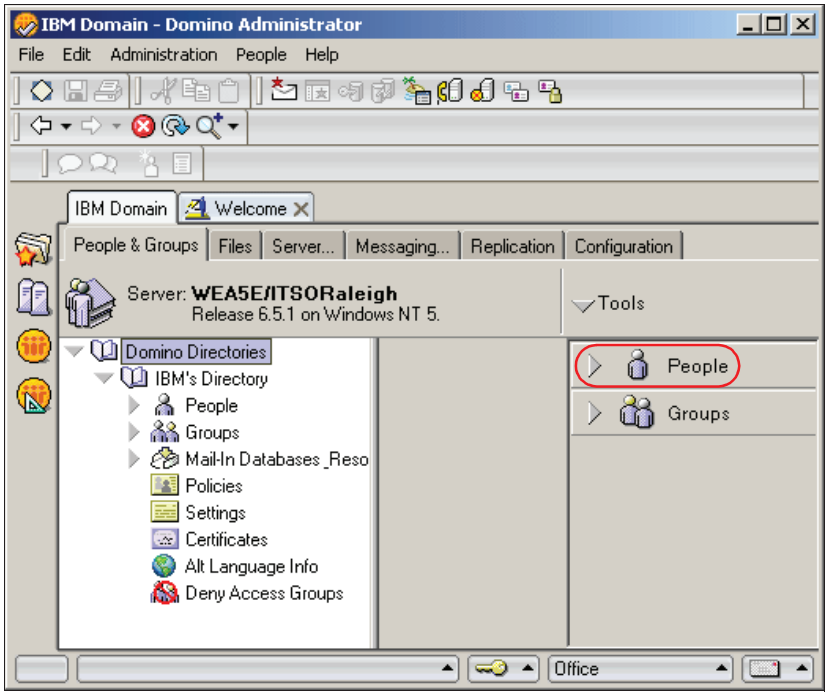


Figure 1-9 Registering a new user

3. It will ask you to enter the certifier password. The certifier password was set during the installation of Lotus Domino. Ensure that a copy of the cert.id file from the Lotus Domino Server exists in the Lotus Domino Administrator client directory. Enter the password and click **OK**.

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4. Select **OK** to bypass the warning.
5. Select the **Advanced** check box. Enter the first name, the last name, and the password.

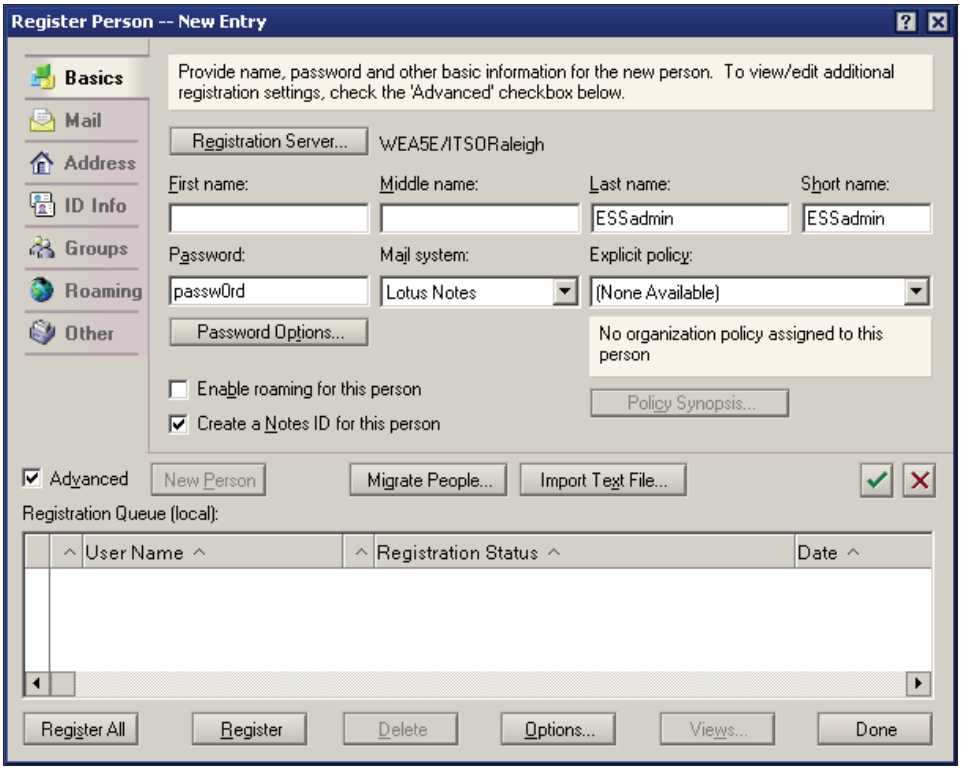


Figure 1-10 Register Person - Basics tab

6. Click **Password Option** to select the **Set Internet password** check box. Then click **OK**.

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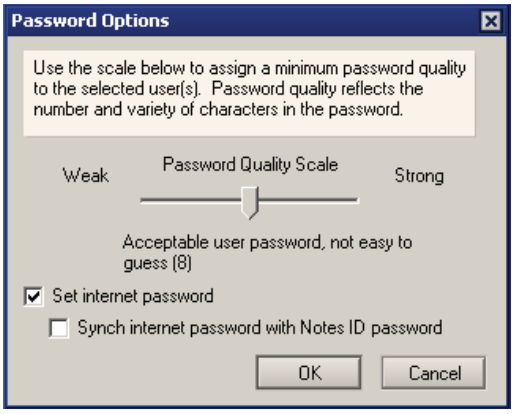


Figure 1-11 Password Options

7. Click **Mail** in the left pane. Click **Mail Server** and enter the Domino Server name.

> **Note:** Select **Domino Web Access** from the Mail file template to enable the user to use the Lotus Notes Notebook features.

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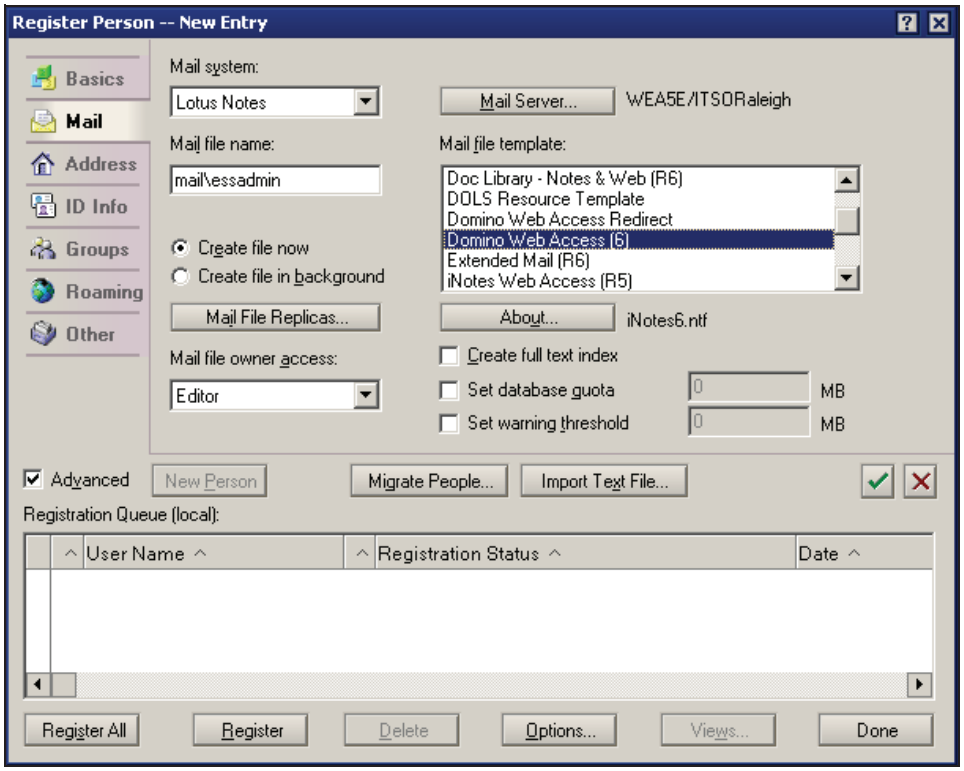


Figure 1-12 Register Person - Mail tab

8. Select the **Address** tab on the left pane and enter the Internet domain. Change the user name on the Internet address if you do not like the automatically generated one.

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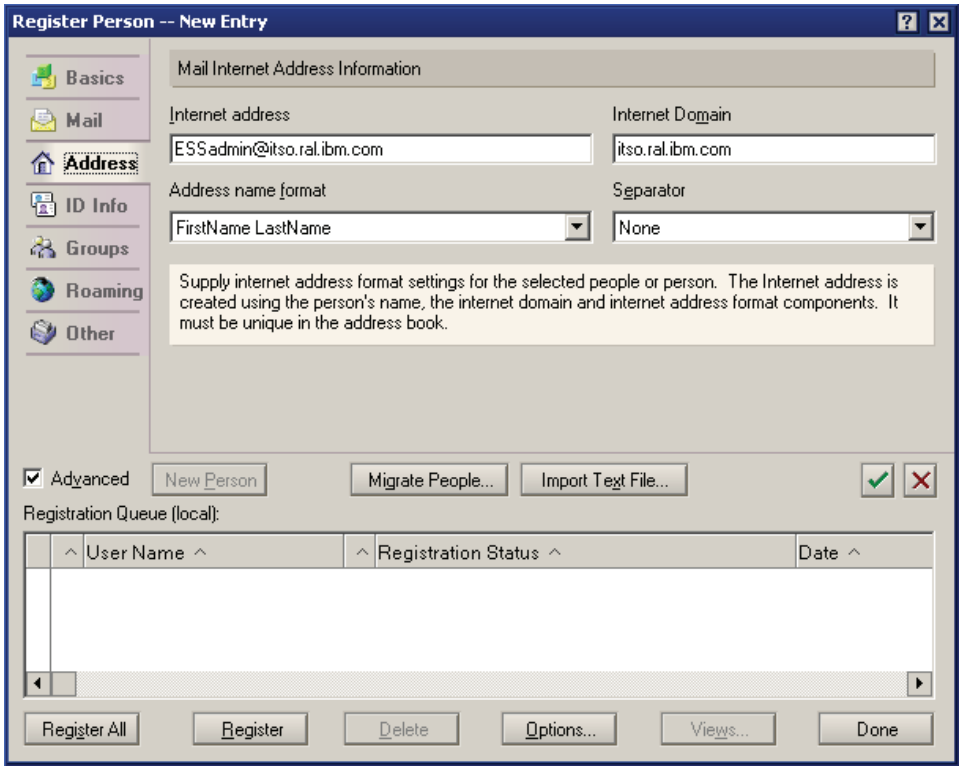


Figure 1-13 Register Person - Address tab

9. Click **ID Info** on the left pane. Enter the appropriate security type and certificate expiration date. Select the **In file** check box under Location for storing user ID.

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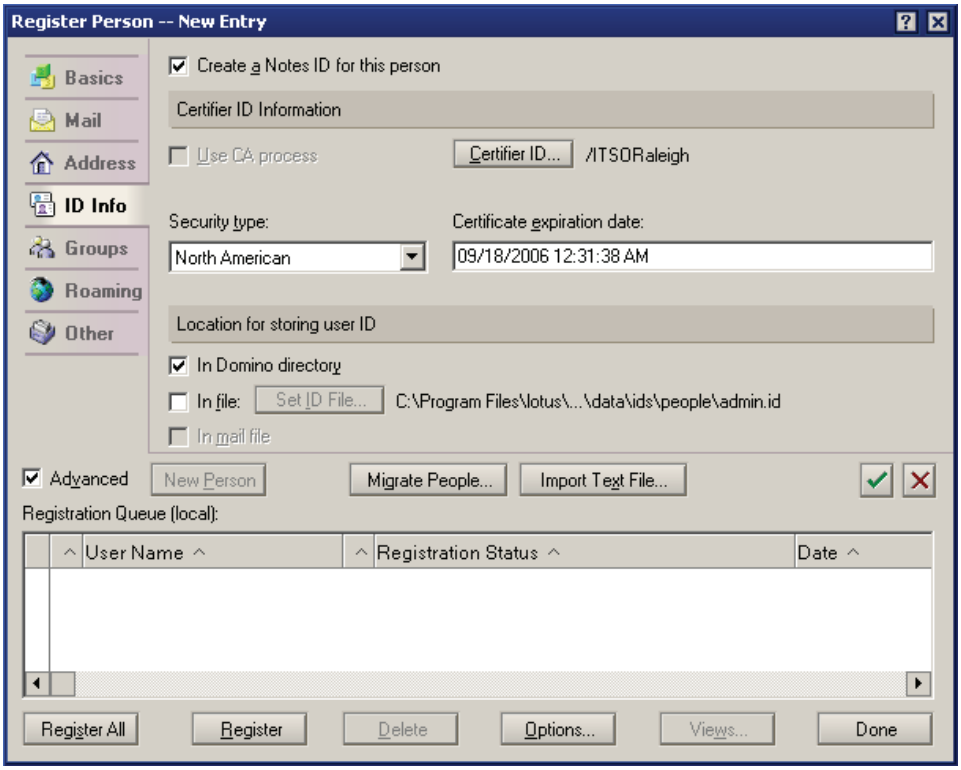


Figure 1-14 Register Person - ID Info tab

10. Click **Groups** in the left pane. Add the Administrator group to the selected groups. In our example, the administrator group is called essadmins.

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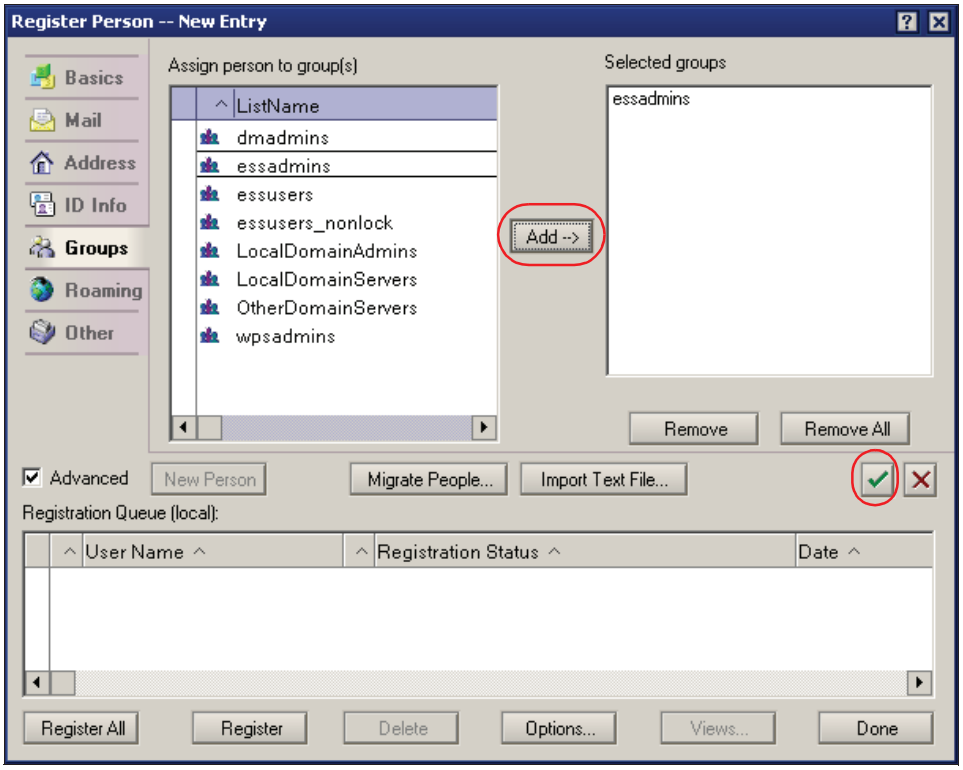


Figure 1-15 Register Person - Groups tab

11. Click the button on the right. Select a user in the Registration queue and then click **Register**. Wait for the registration process and then click **Done**.

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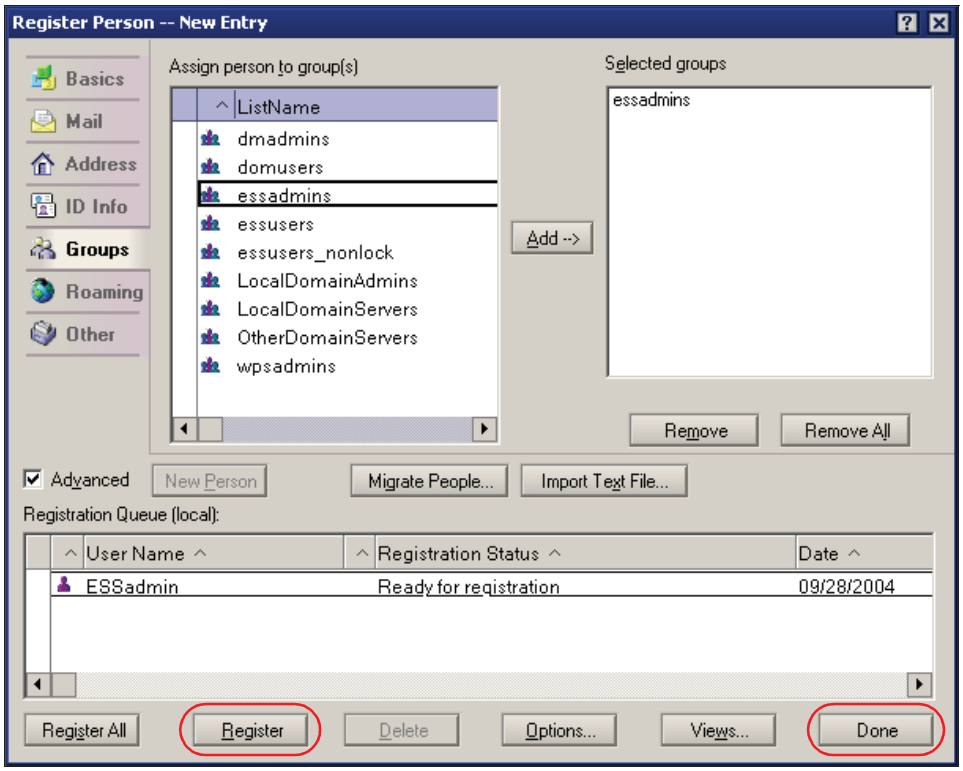


Figure 1-16 Register Person - Groups tab

Configure template inheritance

For users to successfully synchronize with their Lotus Notes database, they must enable template inheritance. Template inheritance is required for the Lotus notes database to use one of the supported templates or one that the administrator has set up. In Lotus Notes, the user needs to perform the following steps to enable template inheritance:

1. Click **File** → **Database** → **Properties**. The Database Properties box opens.
2. Select the **Design** tab.
3. Make sure Design is not hidden and appears at the top of the box.

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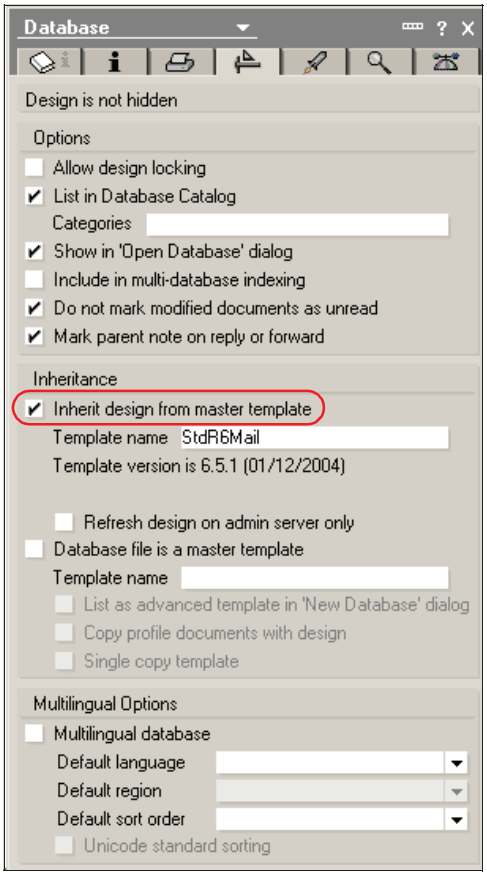


Figure 1-17 Database properties - Design tab

4. Select the **Inherit design from master template** check box (a mail template for Notes Version 5.0 or 6.0 displays in the Template name field or a customer template name supplied by the administrator).
5. Type the Notes template name in the Template name field.
6. Close the Database Design tab.

Add the Domino administration ID to the ACL

You need to add the Domino administration ID that Synchronization Server uses to read and write to the Domino server to the ACL of the mail.box database on the Domino server. The entry needs manager access.

1. From the Lotus Notes, select **File** → **Database** → **Open** and then the current Domino Server.

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2. In the Filename filed enter `mail.box` and click **Open**.

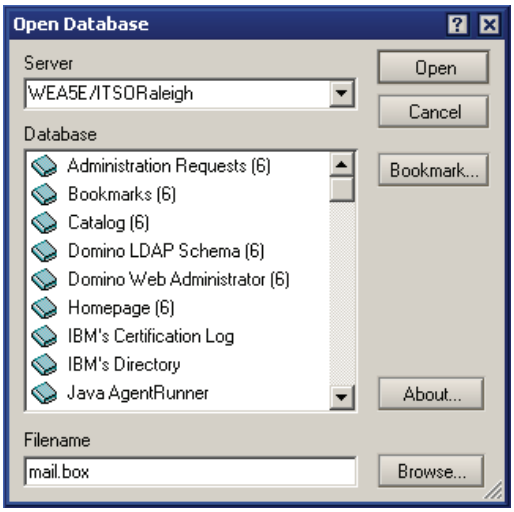


Figure 1-18 Opening database

3. Select **File** → **Database** → **Access Control**.

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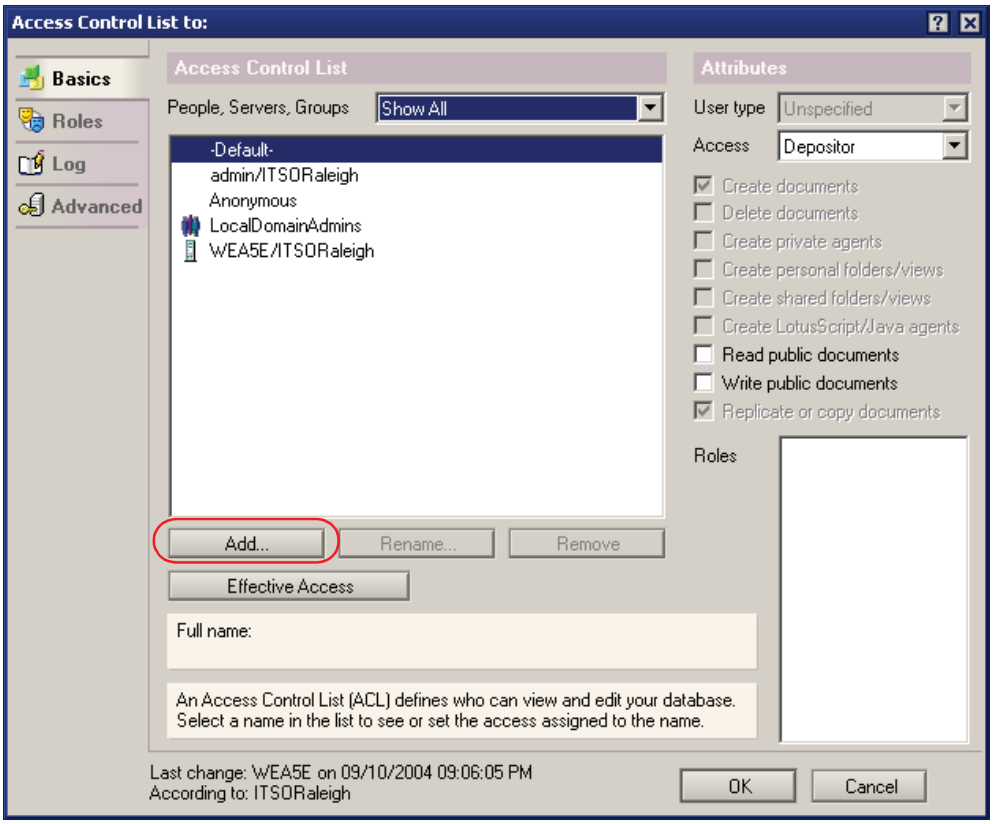


Figure 1-19 Access Control List - Basics tab

4. Click **Add**. A window opens.

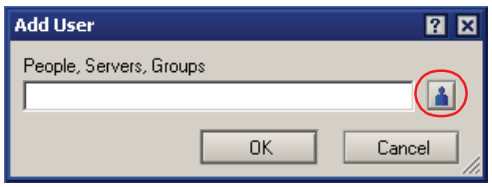


Figure 1-20 Adding a user

5. Click to the right of the Person, Servers, Groups field.
6. Change the Address Book to the Domain Address Book by clicking the drop-down box at the top. Select the Adapter Admin ID and then click **Add**. Then click **OK**.

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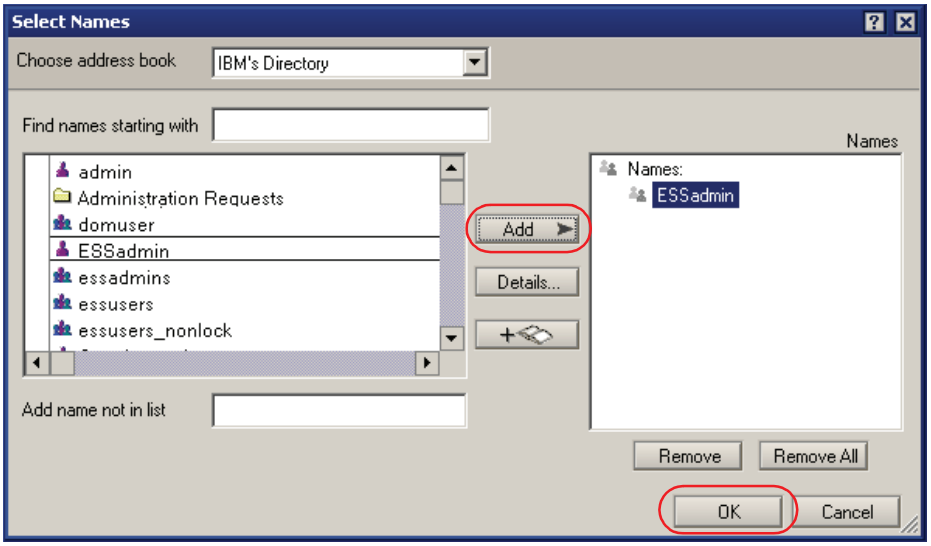


Figure 1-21 Selecting names

7. The Admin ID should now appear on the Access Control List. Select the **Person** from the User Type menu. Select **Manager** from the Access menu. Select the **Delete documents** check box.

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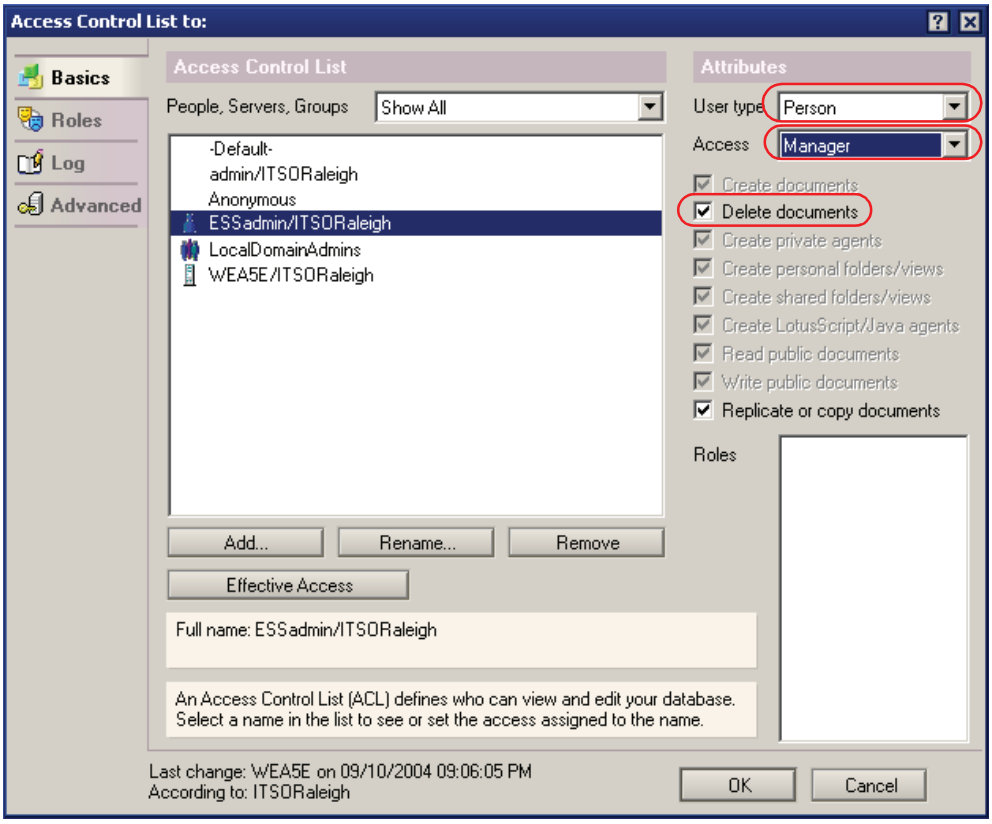


Figure 1-22 Access Control List - Basics tab

8. Click **Advanced** in the left pane. Verify that the Maximum Internet name & Password field is set to Editor or Manager.

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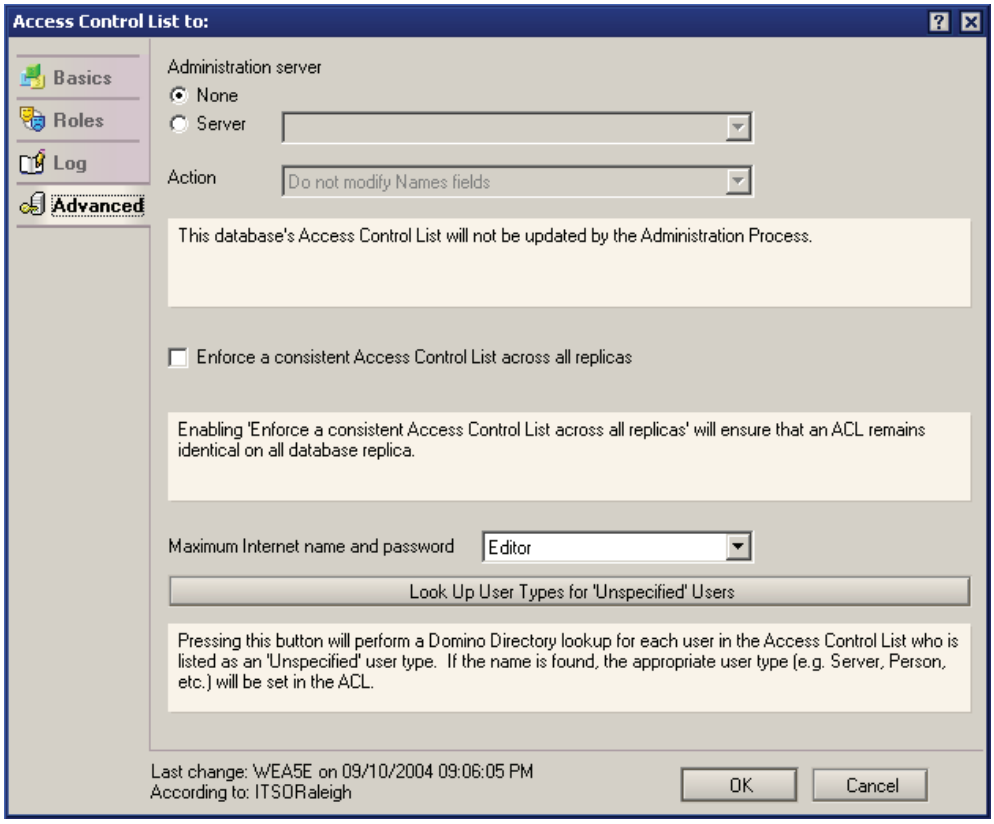


Figure 1-23 Access Control List - Basics tab

9. Click **OK** and close the mail.box database.

Note: If you delete the mail.box database (the router recreates it automatically), you must add the ACL entry again. If you plan to delete the mail.box database periodically to avoid having to add the ACL entry each time the mail.box database is deleted, you can add the entry to the template (mailbox.ntf) by using square brackets.

1.3.3 Lotus Notes user configuration

Every Lotus Notes user account that will be synchronized through ESS will need to grant appropriate access to the Adapter Admin ID. This can be done by the

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individual users, or it can be done by the Domino Administrator using the Lotus Notes client that is installed along with the Lotus Domino Server.

1. If you are a user granting manager access to your database:
   a. Start up the Lotus Notes client and open your mailbox.
   b. Go to step 2.

   If you are a Domino Administrator granting manager access to a user's databases on behalf of the user:
   a. Start up the Lotus Notes client that was installed with the Lotus Domino Server.
   b. Select **File** → **Database** → **Open**.
   c. Locate the user's database under the mail directory. Click **Open**.

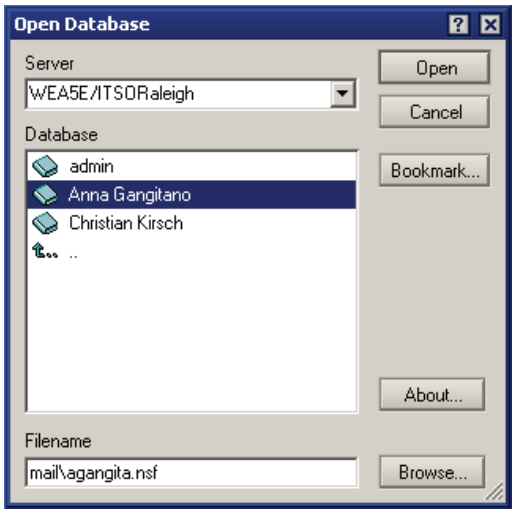


Figure 1-24 Open user's database

   d. Go to step 2.
2. Select **File** → **Database** → **Access Control**.
3. Click **Add** and then click the button to the right of the Person, server, or group field.

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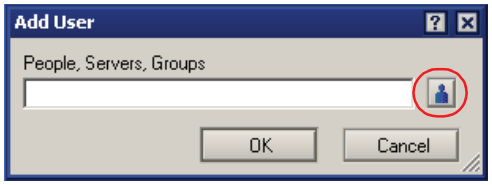


Figure 1-25 Adding a user

4. Change the Address Book to the Domain Address Book by clicking the drop-down box at the top. Select the Adapter ESSadmin ID and then click **Add**. Click **OK**.

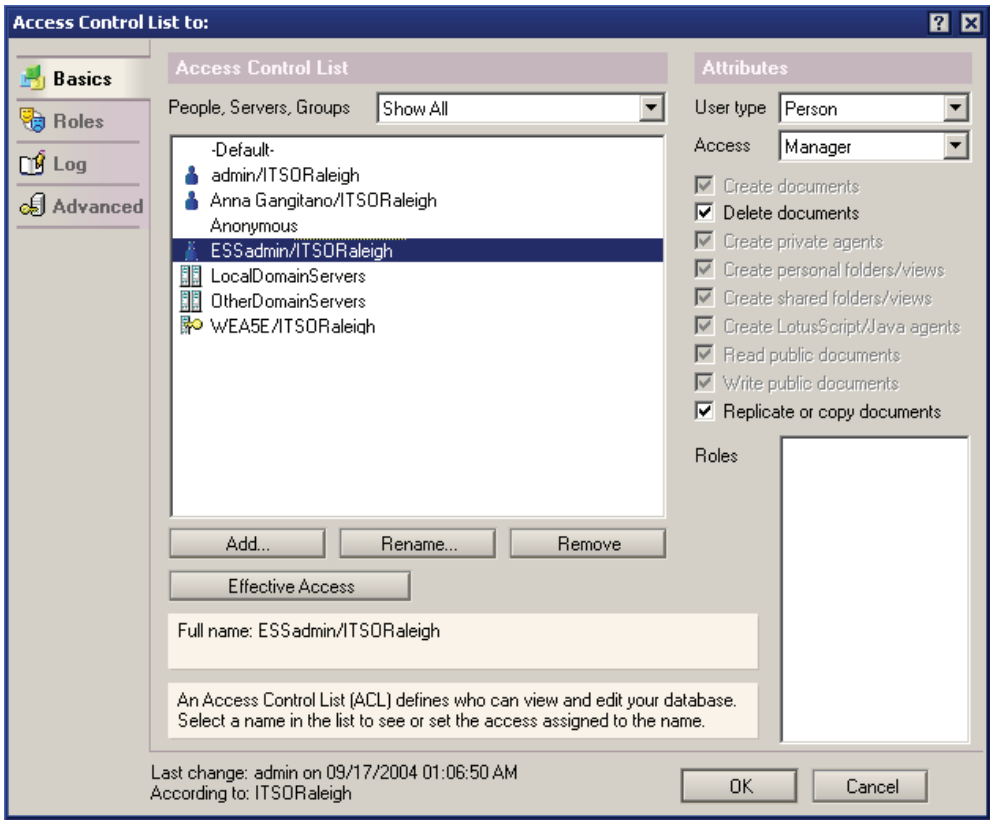


Figure 1-26 Add the Adapter ESSadmin ID

5. The Adapter Admin ID should now appear on the Access Control List. Select **Person** from the User Type menu. Select **Manager** from the Access menu. Select the **Delete documents** check box.

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1.3.4 WEA Server configuration

Additional WebSphere Everyplace Access configurations are needed regarding users who want to synchronize data with their mobile devices, and the associated synchronization profiles. Those steps cover:

- Creating new WEA users who will use the ESS synchronization features.
- Configuring the Lotus Domino Adapter to synchronize with the Domino server.
- Creating a default synchronization profile that will be used to synchronize and filter data to the mobile devices.

Create a new WEA user

First of all, a new user account is created on the WEA server, and this user is expected to synchronize data; therefore, the appropriate access rights to the ESS portlets are needed. For example, follow these steps to set up a user:

1. Create a new user from the WEA portal.
2. Add the user to the essadmins or essusers group (those group are automatically created during installation).

Note: As an alternative, you can add a new group to the essusers or essadmins group and add the new user to this group. For details see *IBM WebSphere Everyplace Access V5 Handbook for Developers and Administrators Volume I: Installation and Administration*, SG24-6462.

Configure Lotus Domino adapter

The Lotus Domino adapter needs to be configured properly to work with the Synchronization Server. It is configured using the Lotus Domino Adapter portlet. The Lotus Domino Adapter allows data to be synchronized between Lotus Domino servers and mobile devices. A single Lotus Domino Adapter can support multiple Lotus Domino servers. For example:

1. Log into WebSphere Everyplace Access as the Portal Administrator.
2. Select **Administration** on the Portal controls on top and then **Websphere Everyplace** → **Everyplace Synchronization Server Administration** → **Lotus Domino Adapter** on the left menu.

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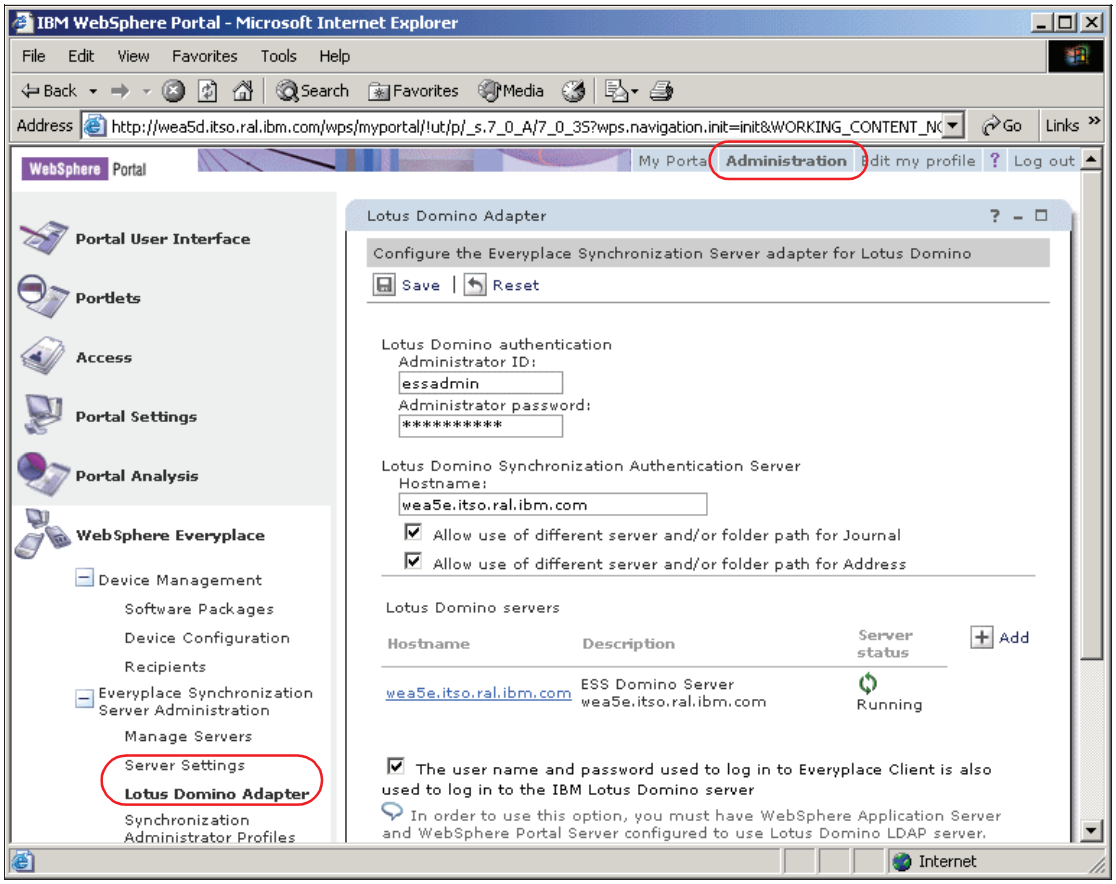


Figure 1-27 Everyplace Synchronization Server Administration - Lotus Domino Adapter

3. During the installation of ESS, you should have been prompted for the Adapter ESSadmin ID and password. Under Lotus Domino authentication, verify that the Administrator ID and Administrator password are correct. Change if necessary.

4. During the installation of ESS, you should have been prompted for the details of one Domino Server. This Domino Server will be used to authenticate the Adapter ESSadmin ID. Verify that this is correct. Change if necessary.

   You can define a Lotus Domino Synchronization Authentication Server to authenticate synchronization users. For Lotus Domino, you only need to

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specify the authentication server to access all of the Lotus Domino servers in your network. To add additional Domino Servers:

a. You should see the name of the Domino Server added during the installation of ESS under the Lotus Domino Servers section. Click the **Add** button on the right side of this section.

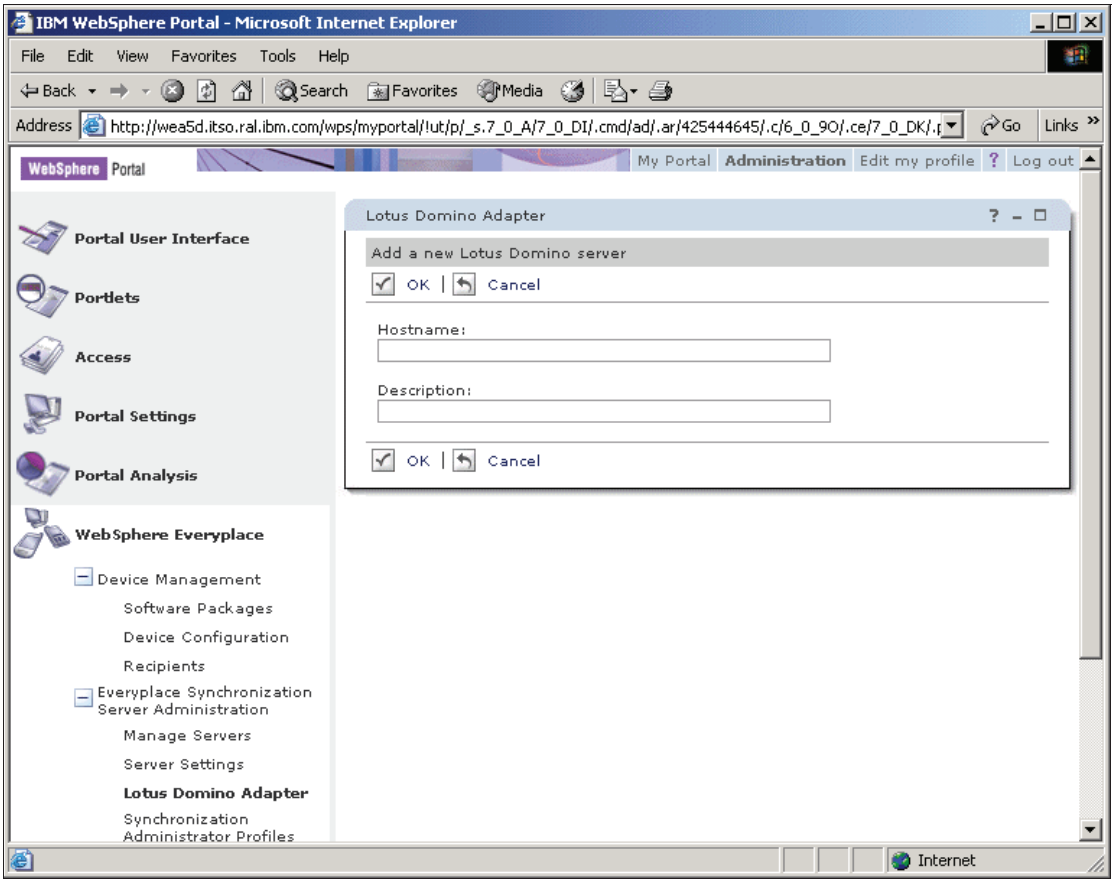


Figure 1-28 Adding a Lotus Domino server

b. Enter the host name and description. Click **OK**.

Follow these steps to remove an existing Domino Server:

a. Under the Lotus Domino Servers section, click the Domino Server you wish to remove.

b. Click the **Remove this server** button.

5. Click **Save**.

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6. Restart Everyplace Synchronization Server by clicking **Start** → **Settings** → **Control Panel** → **Administrative Tools** → **Services**. Locate the IBM Synchronization Server. Stop the service if it is running. Start the service.

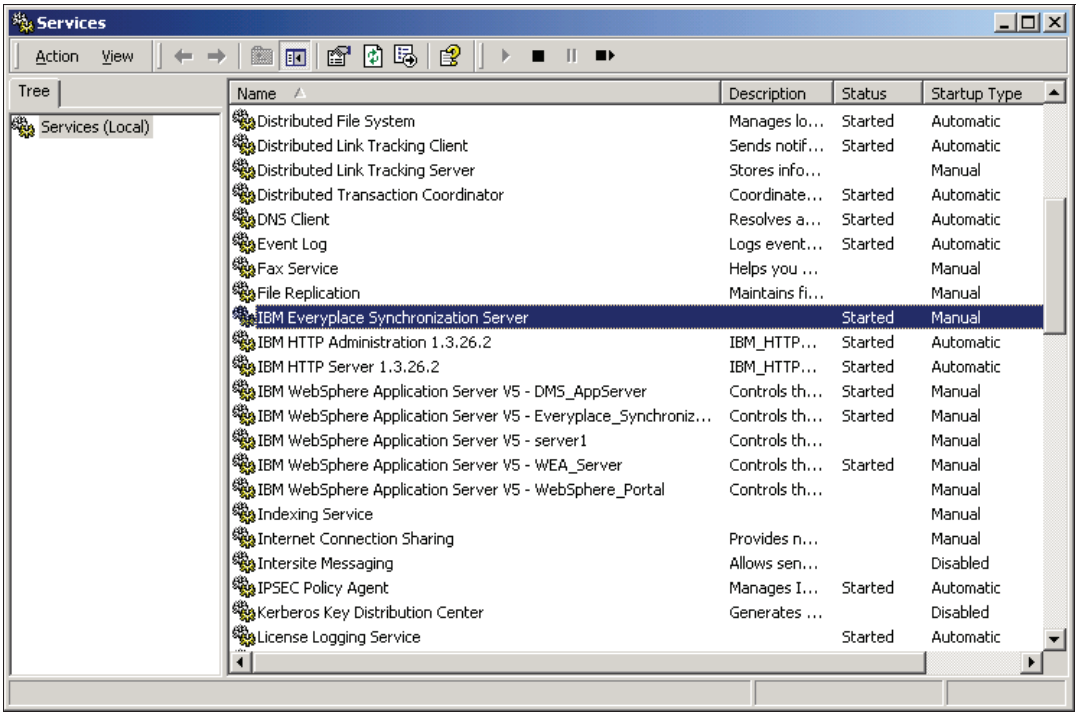


Figure 1-29 Start the Everyplace Synchronization Server services

7. Verify that the Domino Server has started by selecting **Websphere Everyplace** → **Everyplace Synchronization Server Administration** → **Manager Servers** (or **Lotus Domino Adapter**). If the server has started, the word `Running` will appear on the right side of your server under the Server status column.

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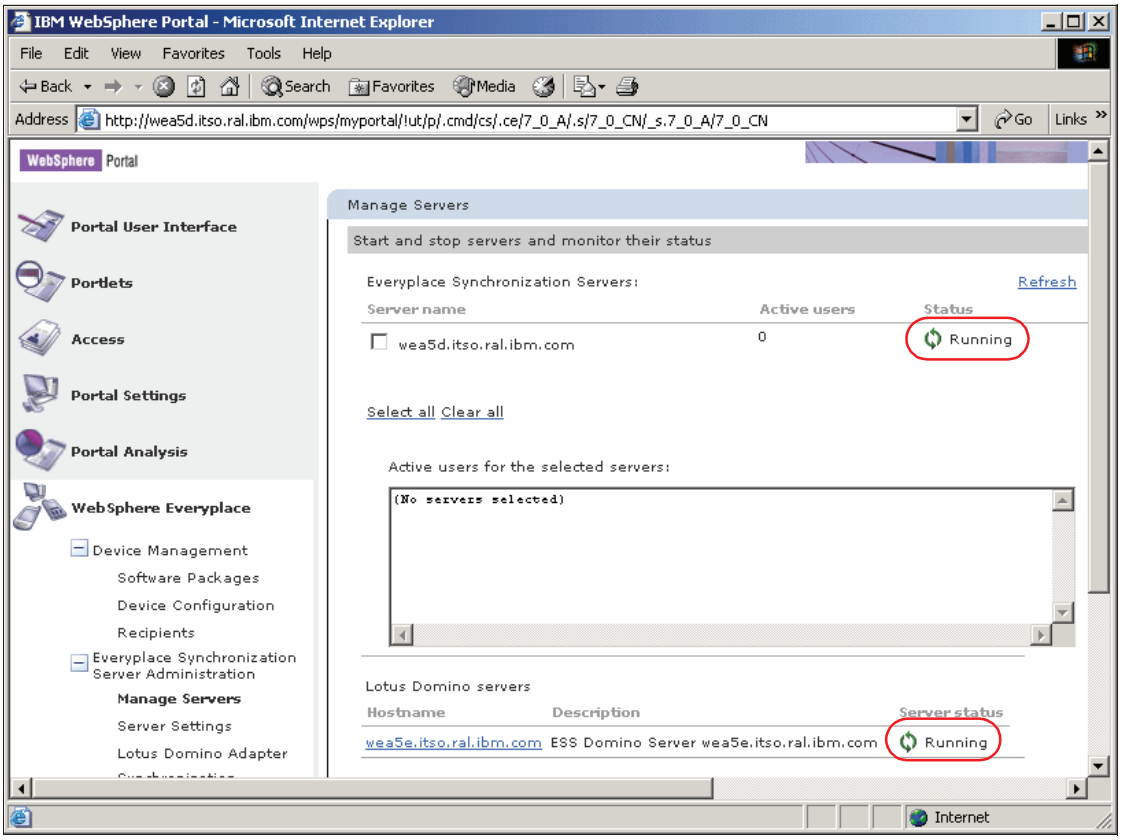


Figure 1-30 Manage Servers - Servers Status

If the Domino Server has not started, check your settings for the Lotus Domino Adapter by selecting **Everyplace Synchronization** → **Lotus Domino Adapter**. You may also want to check the ESS logs for errors. The ESS logs are located in <ESS_dir>\logs, where <ESS_dir> is the directory where ESS is installed.

You can also check the Domino Server console to see if there were any attempts to access the database of the Adapter Admin User. If ESS is correctly talking to the Domino Server, it should look something like Figure 1-31.

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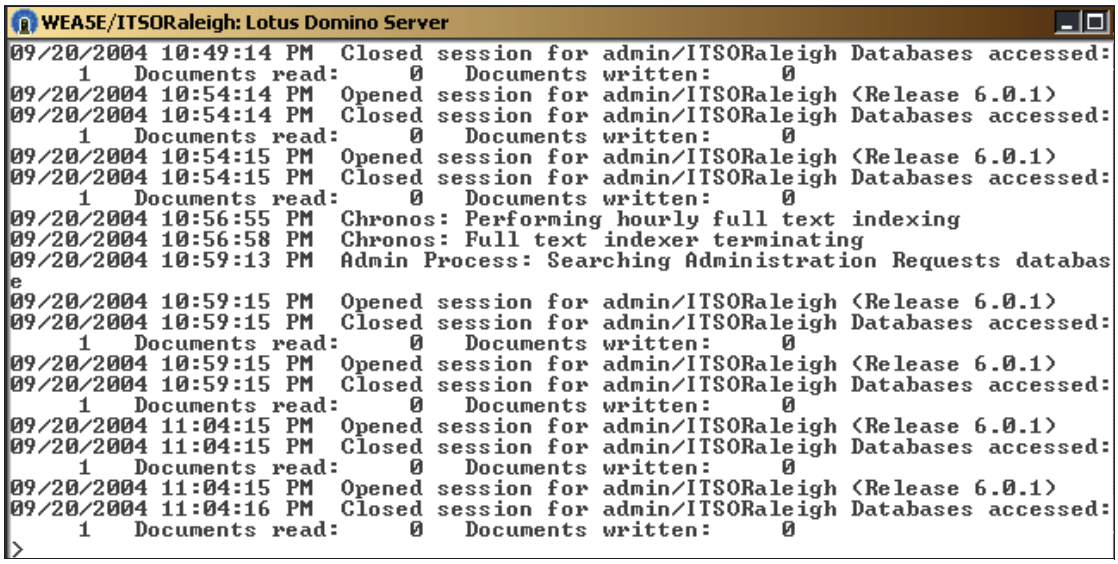


Figure 1-31 Lotus Domino Server console

If the server is not running and you cannot find anything wrong with your settings for the Lotus Domino Adapter, you might want to check that your Domino Server configuration is correct.

8. You can view/configure logging for user activities. Click **User Logging** from the left-navigation. You will see the Configure the Everyplace Synchronization User Logging Settings portlet.

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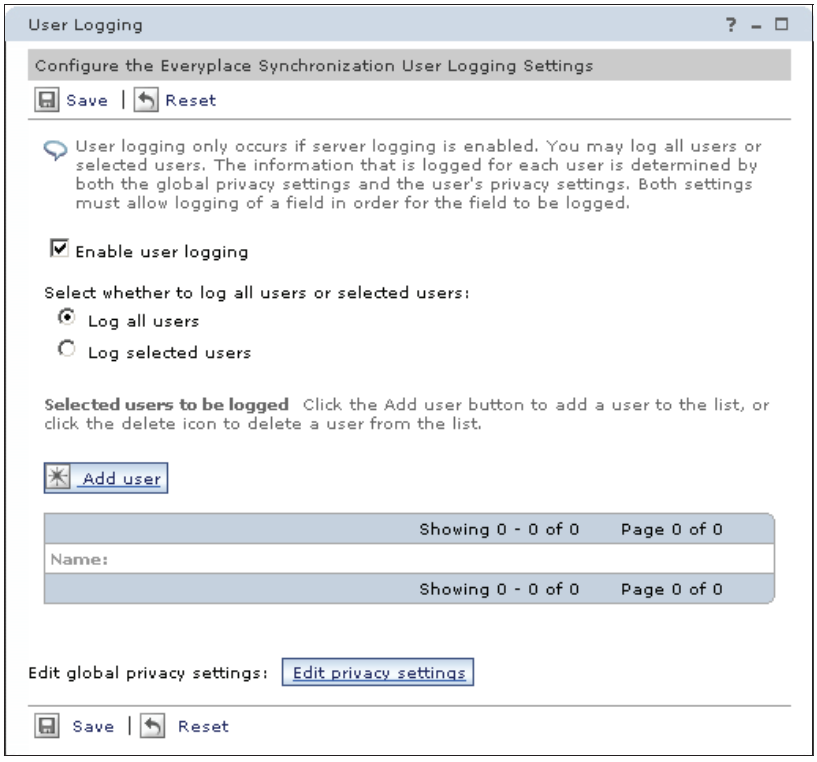


Figure 1-32 User logging

9. You can view/configure logging for the Synchronization Server. Click **Synchronization Server Logging** from the left-navigation pane. You will see the Configure the Everyplace Synchronization Server Logging Settings portlet.

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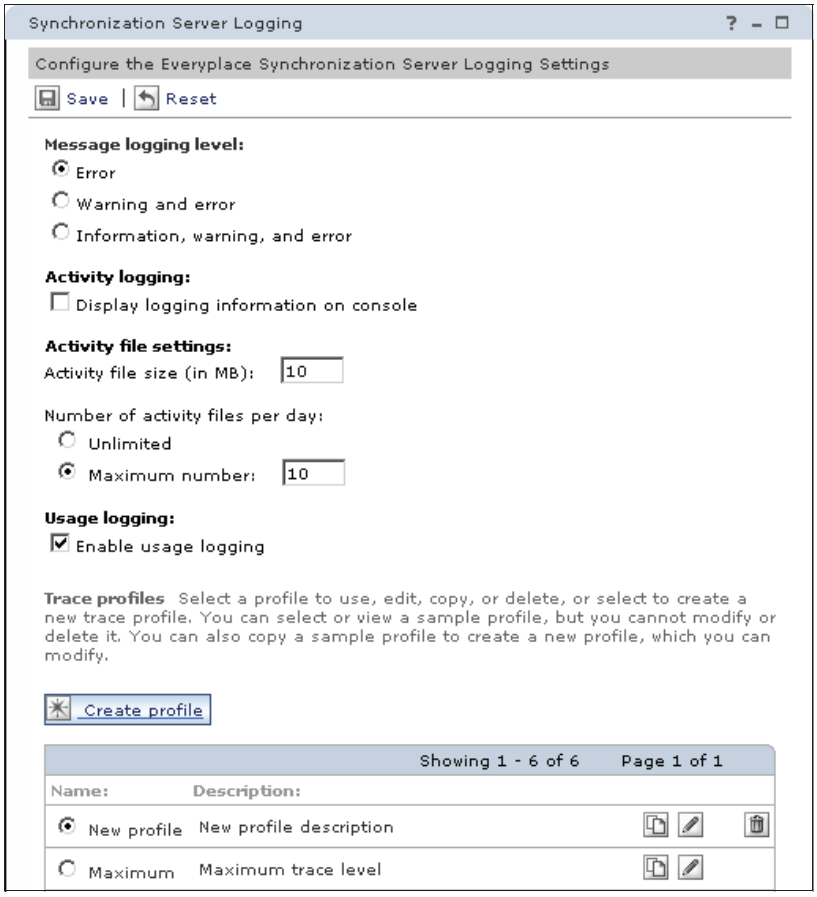


Figure 1-33 Synchronization Server Logging

10. You can also view/configure logging for administrative activities. Click **Administration Service Logging** from the left-navigation pane.

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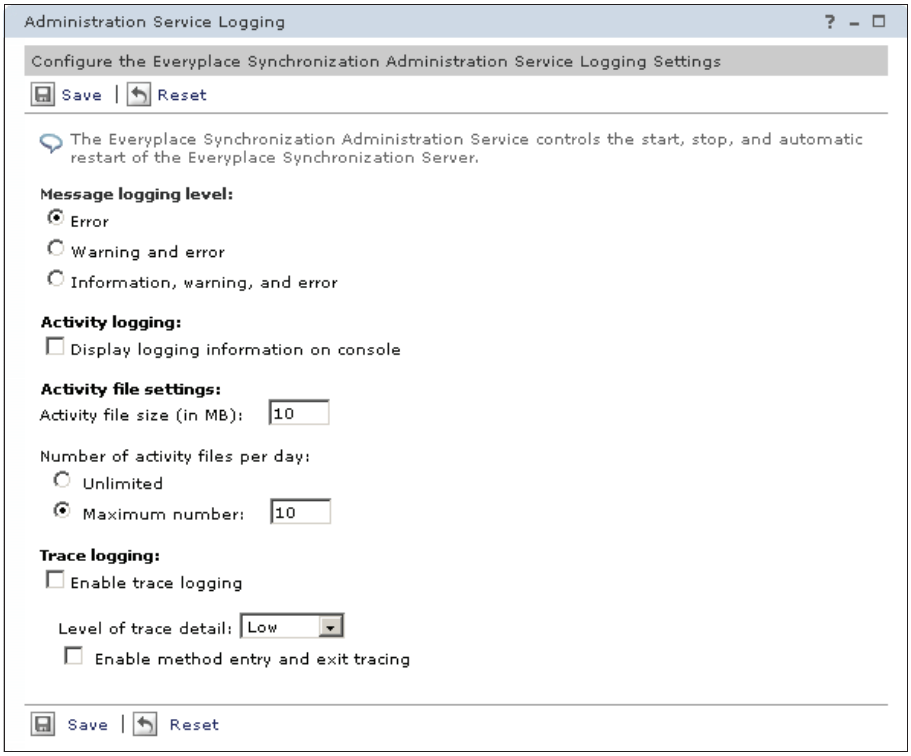


Figure 1-34 Administration Server Logging

Journal and Address Book

The Lotus Domino Adapter only requires you to define the authentication server to authenticate users. However, the Lotus Notes Journal or Address book may be on separate servers. If this is the case, you need to specify that the Journal or Address book databases are on separate servers, and specify those servers in the Lotus Domino Adapter portlet. You only need to add Lotus Domino servers if you have selected either one of the check boxes. The status of the authentication server and the journal or address book servers are displayed on the Manage Server portlet.

Common Directory Server

You can configure WebSphere Portal to use the same directory server as Lotus Domino. If the directory server is common between the portal and mail server, the user may use the same username and password for accessing WebSphere Portal as they do for synchronizing with Lotus Domino using Everyplace Client. To accomplish this, you must configure WebSphere Portal to use Domino Directory as its directory server, and set up the Lotus Domino Adapter to accept the single login and password.

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Create Default Device profile

Profiles are used to control how mail, calendar, tasks, etc. are included in the synchronization process. A device profile is a group of settings that limit the scope of synchronized data. It is necessary to create at least one device profile before synchronizing PIM or data. For user-specific device profiles, it also stores information about:

- The Domino Server the user wants to connect to.
- The user name and password of the Lotus Notes account whose PIM and e-mail data the user wants to synchronize.

Note: Any time you modify a device profile or switch to a new device profile, the next time a user synchronizes with the server all records are re-evaluated, which may result in a slow synchronization. If you delete a device profile that you previously synchronized with and create a new profile, synchronizing with the new profile will overwrite the data on your device with the data on the server.

Administrators can create administrator profiles that users can link to, edit an individual user's device profile, and assign an administrator profile to multiple users at once. To work with profiles, administrators use the Bulk Load (for details see *IBM WebSphere Everyplace Access V5 Handbook for Developers and Administrators Volume I: Installation and Administration*, SG24-6462), Synchronization Administrator Profiles, and Administrator for Users portlets in the Administration page.

End users work with device profiles using the Synchronization User Profiles portlet in the Mobile Setup page. End users can link to administrator profiles, which enables them to automatically inherit changes made to the profile by an administrator, or create or edit their own device profiles.

Note: Administrators can lock device profiles so that end users must use an administrator device profile that they cannot edit. See the help for the Synchronization Administrator Profiles portlet for more information about locking device profiles.

Perform the following steps to create a default device profile:

1. Log in to the Portal using the administrator's user ID and navigate to the Administration in the Portal Controls, and then on the left links choose **Websphere Everyplace** → **Everyplace Synchronization Server Administration** → **Synchronization Administrator Profiles**.

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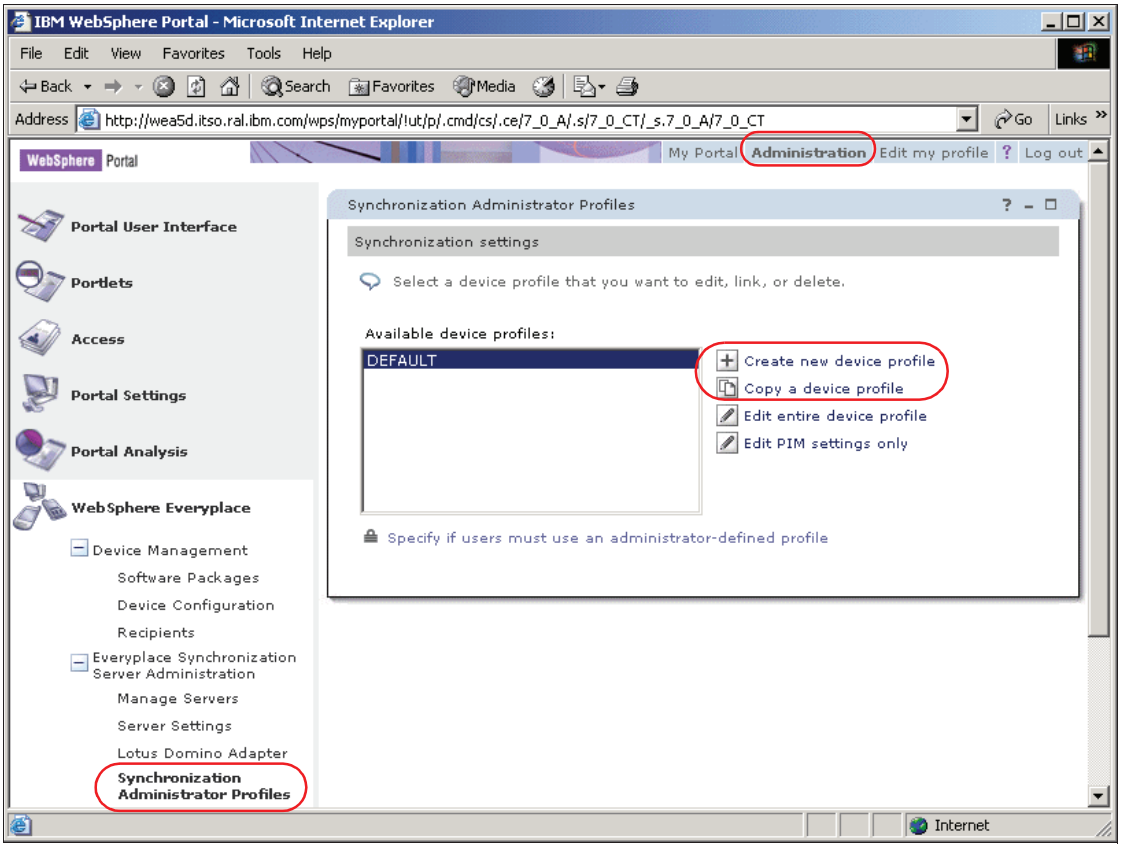


Figure 1-35 Synchronization Administrator Profiles

2. Select **Create new device profile**. Complete the “Provide a name for your new profile” and “Provide a device description for your profile” fields with a brief description of your profile. Click **Next** to continue.

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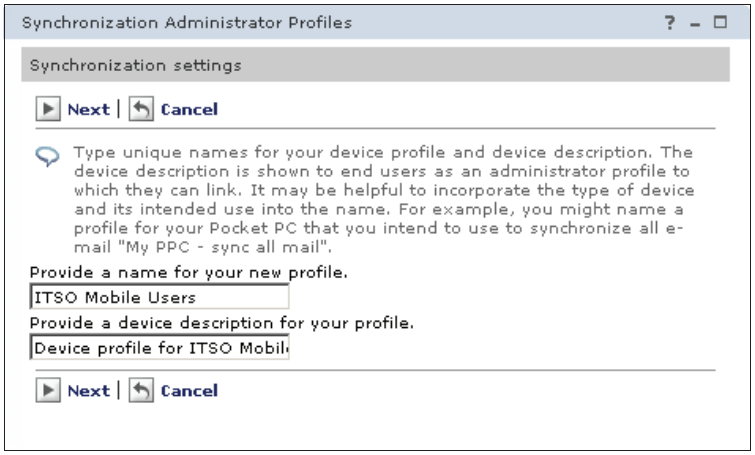


Figure 1-36 Synchronization Administration Profiles - Providing a name

3. You will be presented with the list of features that can be configured. First we will configure e-mail. Click **Filter** under the E-mail section.

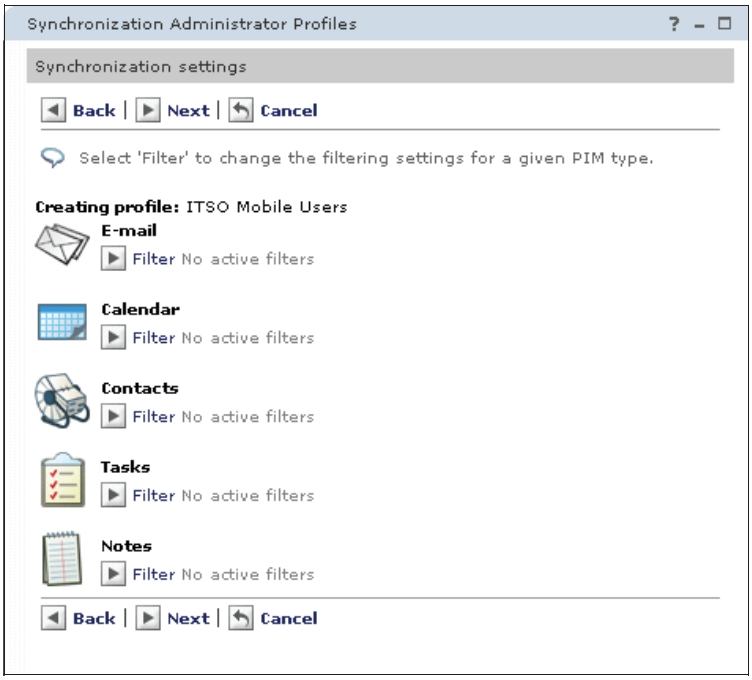


Figure 1-37 Synchronization Administration Profiles - Selecting filters

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4. You will see you have varying options to configure for how e-mail is synchronized. There are two sections:
   - The top section under Creating profile lists filters specific to the default device profile you are creating.
   - The bottom section under Global Mail Filters lists filters used for *all* e-mail synchronized.

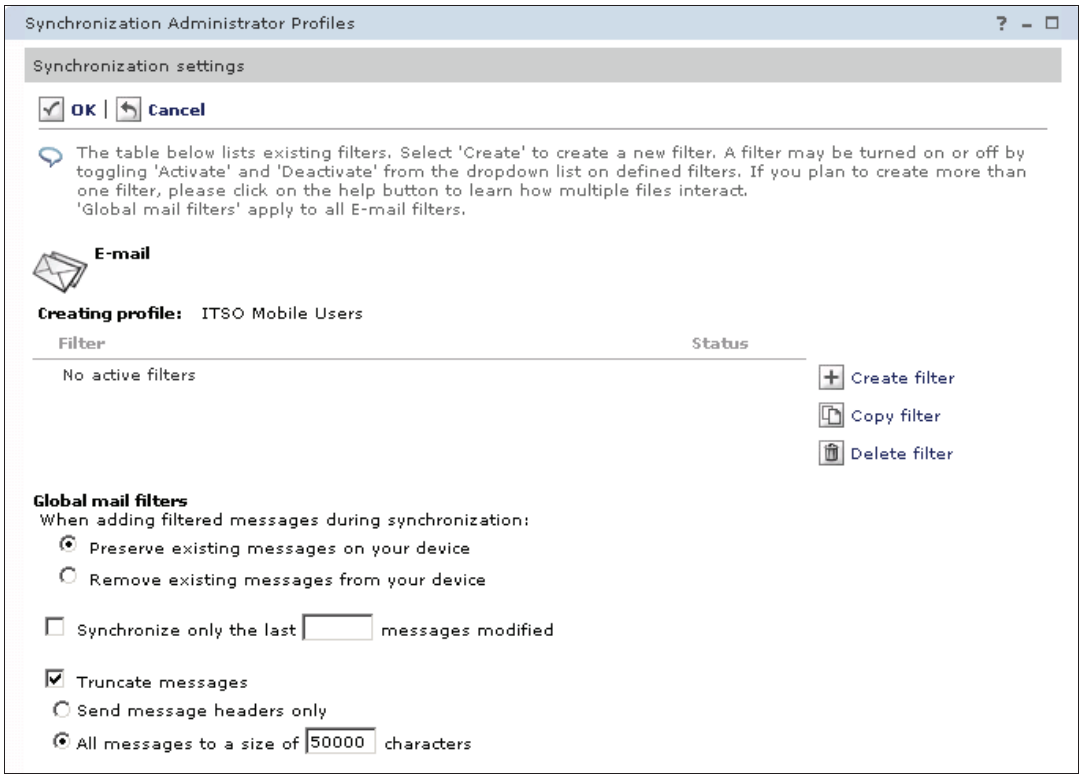


Figure 1-38 Synchronization Administrator Profile - Synchronization settings

We will deal with the global settings. Notice that by default attachments are not synchronized. However, in this example we will use the attachment with extension .doc and a size less than 250 KB. Select the **Include only files with the following extensions (comma separated)**: with doc and then select **250KB** from the drop-down list.

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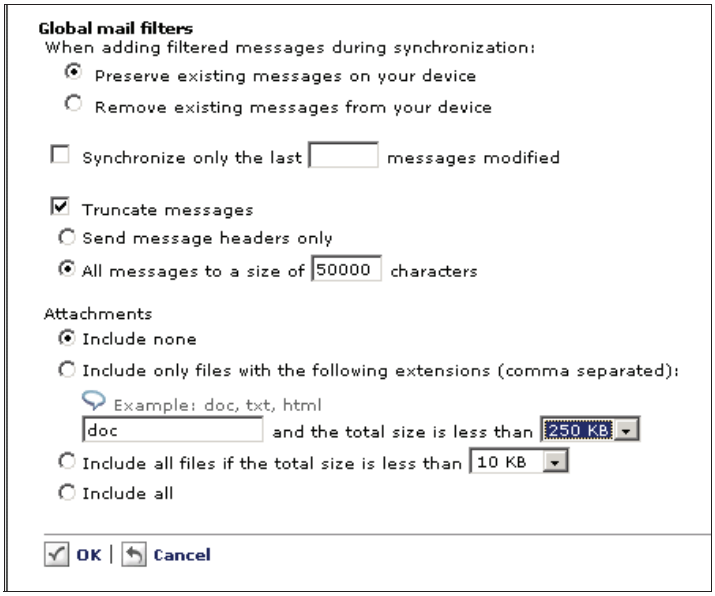


Figure 1-39 Global mail filters

5. Click **Create filter** on the right and an edit page will be displayed, with various options regarding how e-mail will be filtered.
6. Type `Only e-mail received in the last week` in the “Provide a descriptive name for this filter” option.
7. Click **Date**. This option will expand. Select **Date received** and **This week** values.

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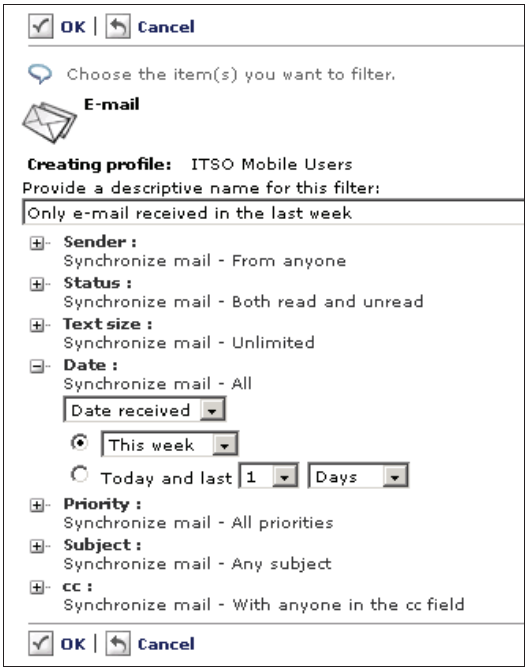


Figure 1-40 Synchronization settings

> **Note:** The This week option runs Sunday to Sunday. For example, if you are performing the synchronization on Tuesday, you will get Sunday to Tuesday, not Tuesday to Tuesday. If you need a real week, then choose the Last 7 Days option.

8. Leave the rest of the values as default and click **OK** to save this filter.
9. You will be taken back to the previous screen, and you should see your filter has been added with a status of active.

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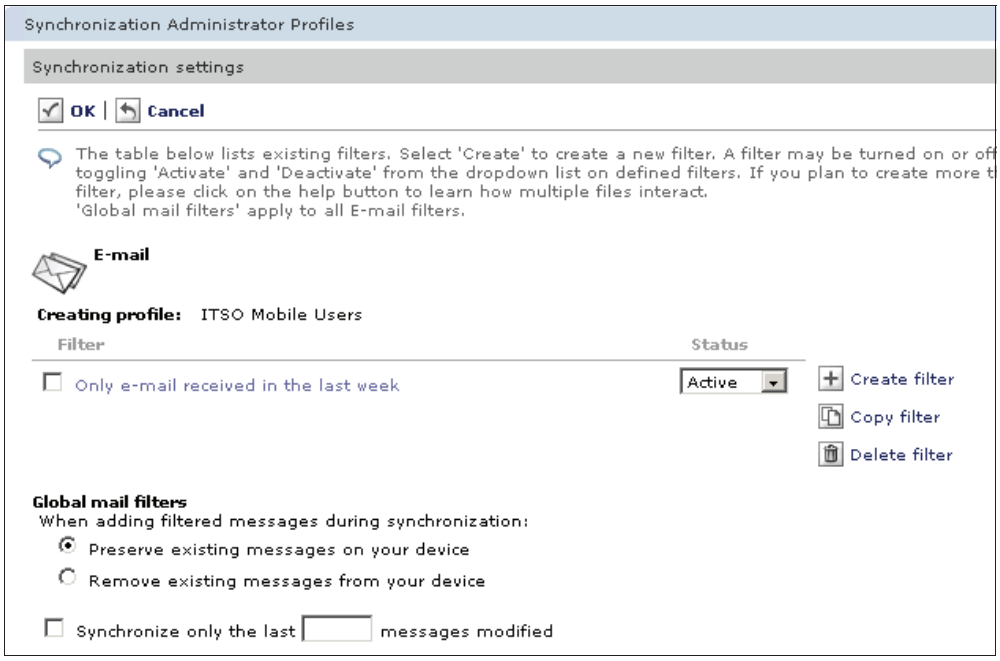


Figure 1-41 Synchronization settings

10. Click **OK** to save these changes. You will be returned to the screen displaying the list of e-mail and PIM data that may be configured, and you should see that e-mail now has one active filter.

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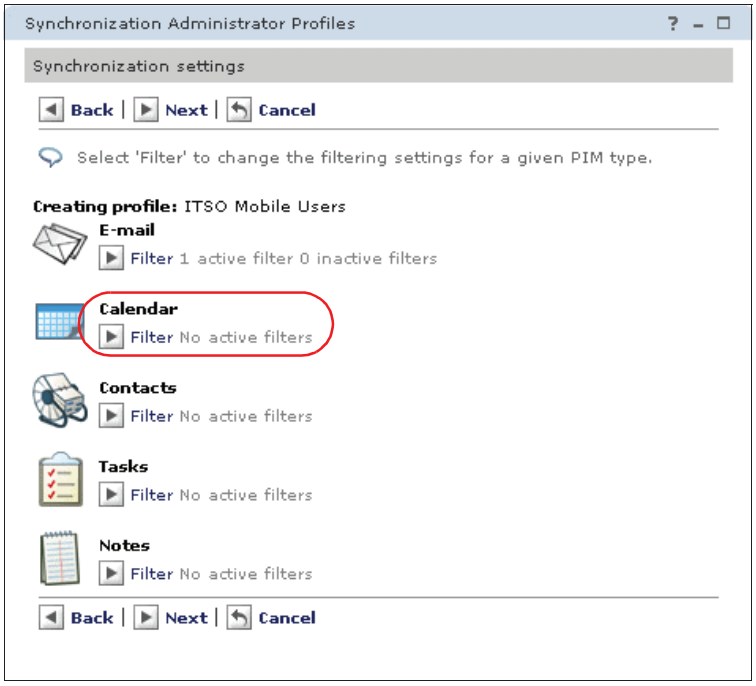


Figure 1-42 Synchronization settings - Main

11. Now you can configure some of the other features. You will start with Calendar. Click **Filter** next to Calendar. Click **Create filter**.

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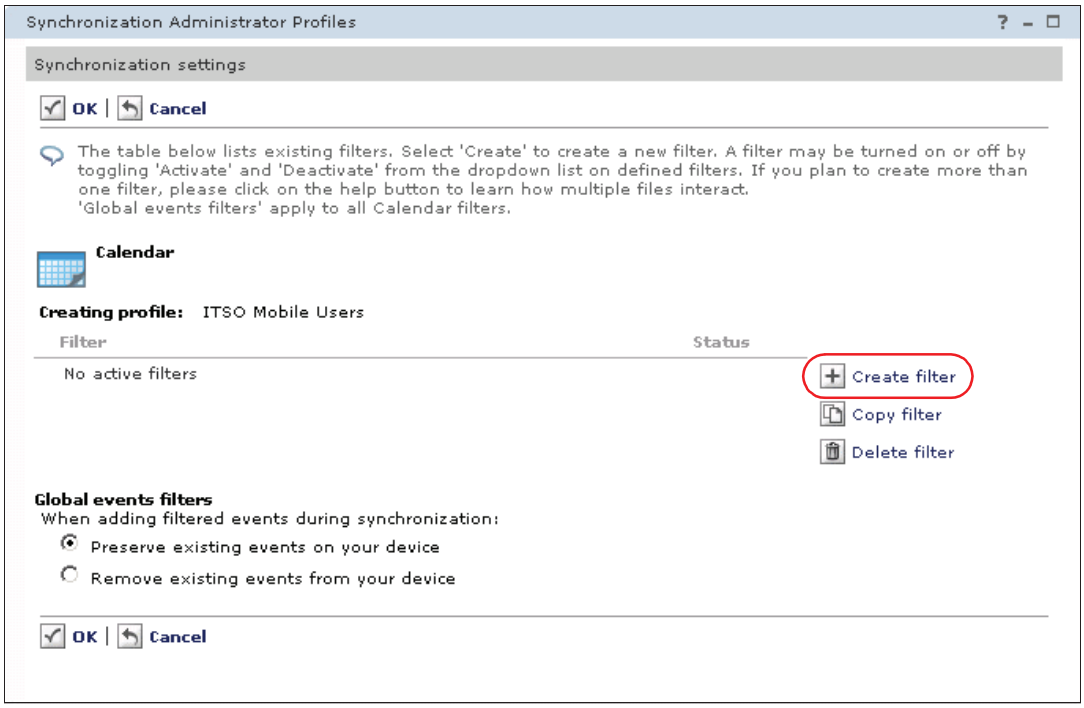


Figure 1-43 Calendar filters

12. There are various filters or options that can be applied to calendar items. Remember this is a default profile many users can link. For this example users will only be able to synchronize data within a three-month window. However, users can change this in their personal profile if required. Enter a title in the “Provide a descriptive name for this filter” field.

13. Expand **Start date of entry** and select the **This time interval…** option. Then select options **1** and **Months** from the drop-down lists to the left of “in the past to” section, and select options **2** and **Months** from the drop-down lists to the left of the “in the future” section.

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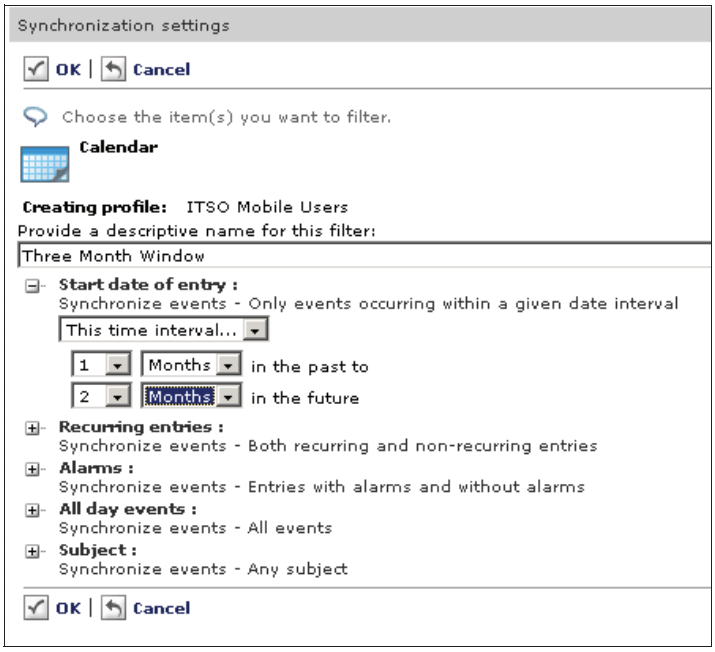


Figure 1-44 Calendar filters

14. Click **OK** to save these changes. You will be taken back to the previous screen, and should see that there is now an active filter called Three month window.

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Figure 1-45 Calendar filter

15. Click **OK** to return to the screen displaying the list of e-mail and PIM data that may be configured.
16. We will not create filters for Contacts. We will create a filter for Tasks. This is created the same way as previous filters. Select **Tasks** and then click **Create filter**.
17. Enter `Only high priority tasks`. Select **Priority** and select **High Only**. Click **OK** twice to save your changes and to return to the screen displaying the list of e-mail and PIM data that may be configured.

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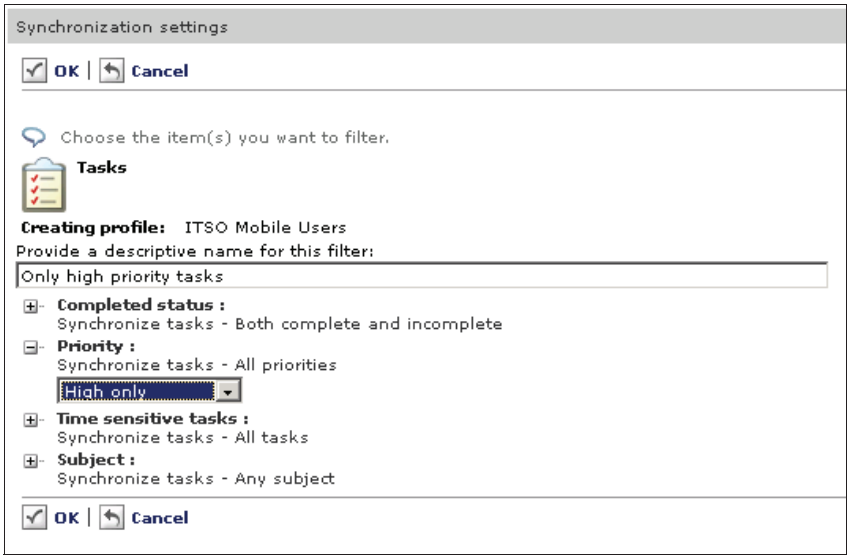


Figure 1-46 Tasks filter

18. Leave Notes as the default so everything gets synchronized. Click **Next** to continue.

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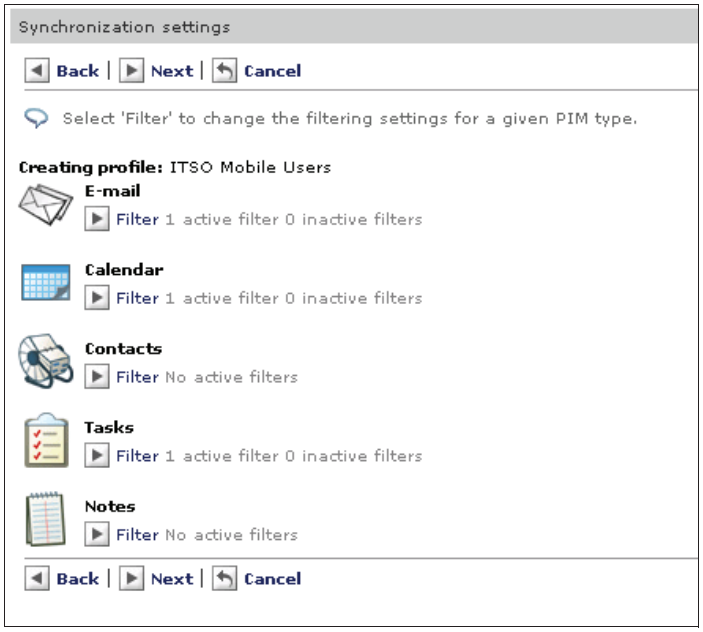


Figure 1-47 Synchronization settings

19. Now you are prompted for what to do if a conflict occurs. In this case select **Server**. Click **Next** to continue.

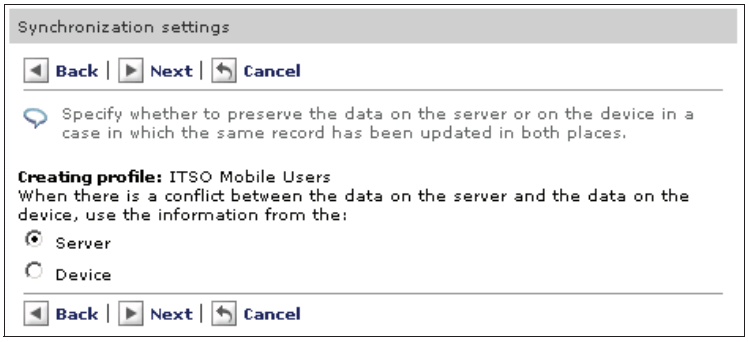


Figure 1-48 Synchronization settings

20. See a summary of all the filters you have created. There should be three active filters:
    - E-mail, Only e-mail received in the last week
    - Calendar, Three month window
    - Tasks, Only high priority tasks.

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21. Click **OK** to save this profile. You should see the ITSO Mobile Users profile in the list of available profiles.

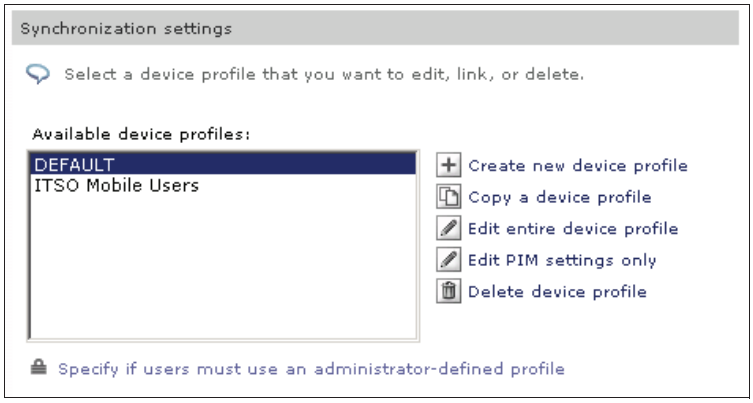


Figure 1-49 Available device profiles

22. Log in the portal as the WEA administrator.
23. Select **Administration** on the Portal controls.
24. In the left navigation, click **Websphere Everyplace** → **Everyplace Synchronization Server Administration** → **Synchronization Administrator for User**. The Synchronization Administrator for User portlet will be displayed. Search the user Anna.

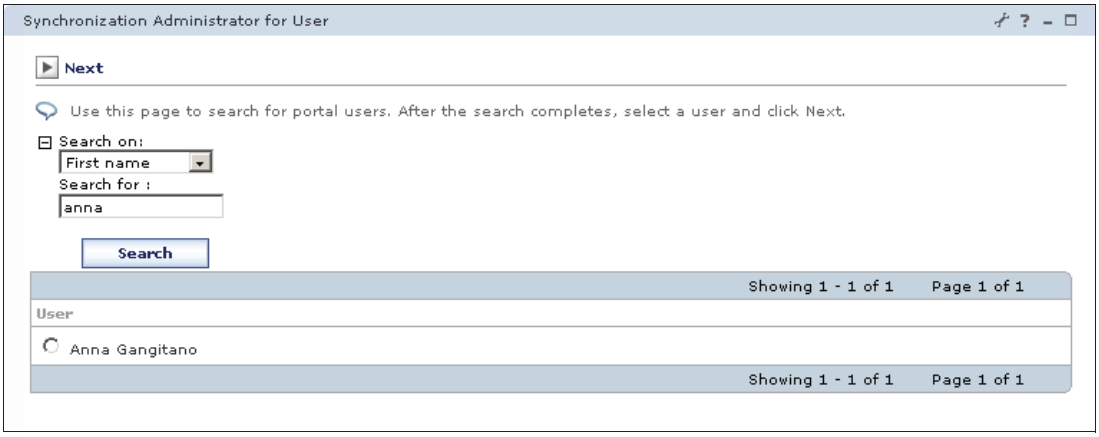


Figure 1-50 Search portlet for users

25. Check the user from the result list and click **Next**.
26. Click **Create new device profile**.

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Figure 1-51 List of available device profiles

27. Provide a name for your new profile and click **Next**.



Figure 1-52 Synchronization Administrator for user

28. The next page is regarding the user's Domino mail user ID and password. You do not need to provide this information since in the Lotus PIM adapter configuration the setting is user having the same ID for WEA and for Domino mail. Click **Next**.

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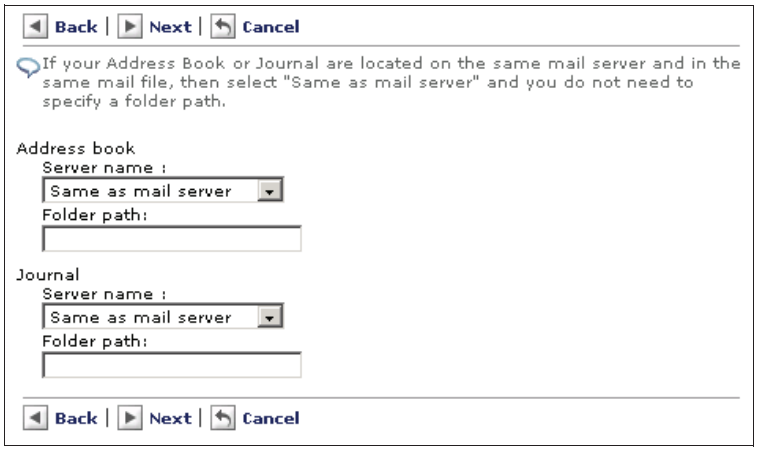


Figure 1-53 Synchronization Administrator for user

29. Specify to link the new profile to the administrator profile ITSO Mobile User. Click **Next** to continue.

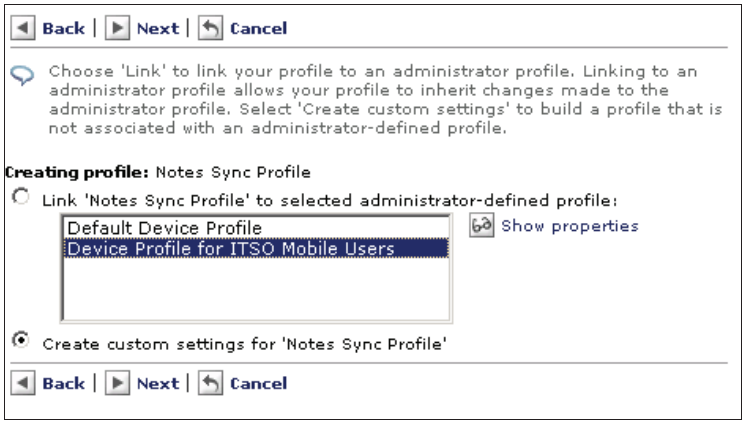


Figure 1-54 Creating a profile - Link

30. The initial synchronization settings page will display. You will specify how much data will be synchronized to the device when the first synchronization occurs. These initial synchronization settings are different from the normal synchronization settings that you have set, and only take effect during the first synchronization. You will accept the default settings. Click **Next**.

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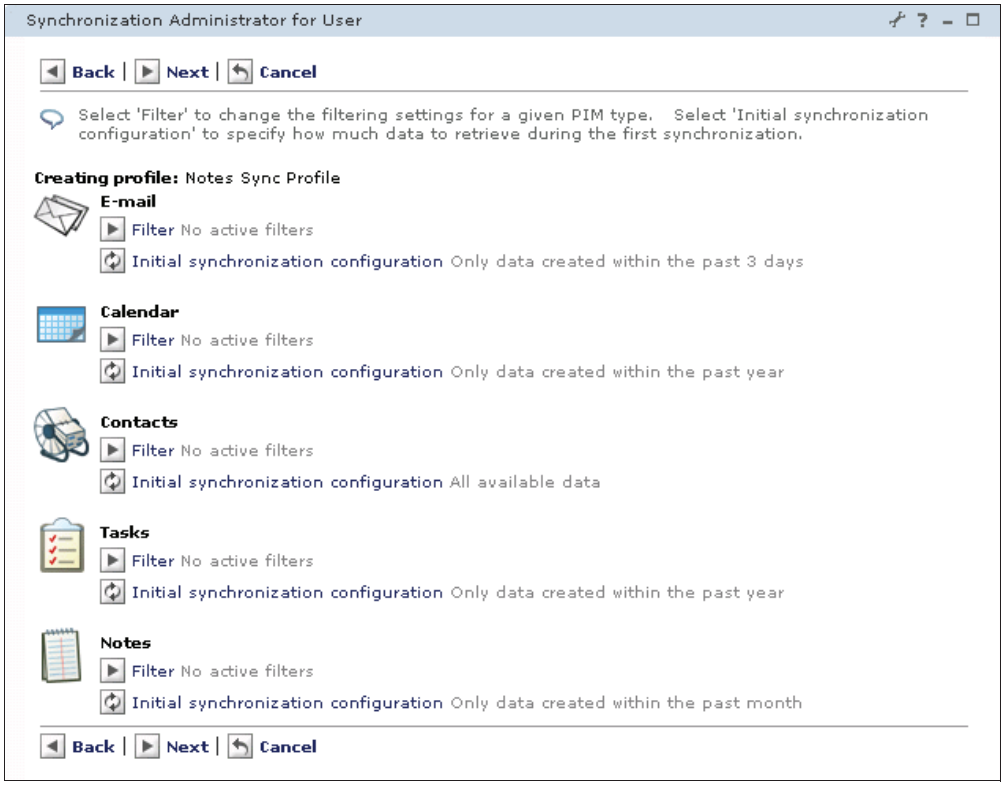


Figure 1-55 Synchronization Administrator for User

31. Specify in the privacy settings what information can be logged. Select the appropriate boxes and click **Next**.

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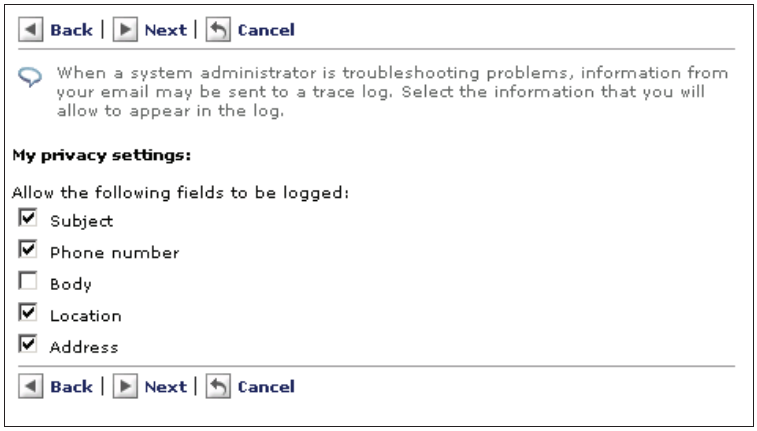


Figure 1-56 Privacy settings

32. Select a time zone and click **Get locales for this time zone**. Select a locale for the synchronization profile and click **Next**.

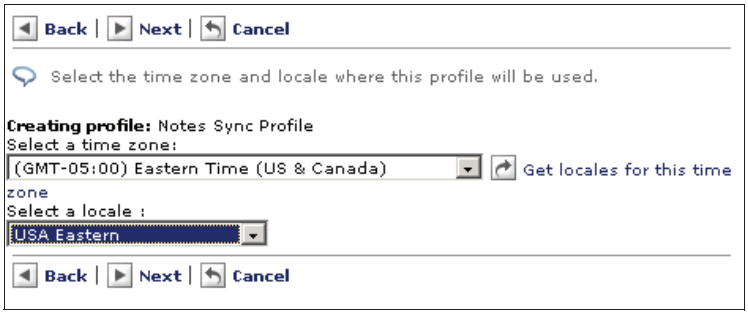


Figure 1-57 Selecting time zone and locale

33. The user profile summary will display. Click **OK** to save the user profile.

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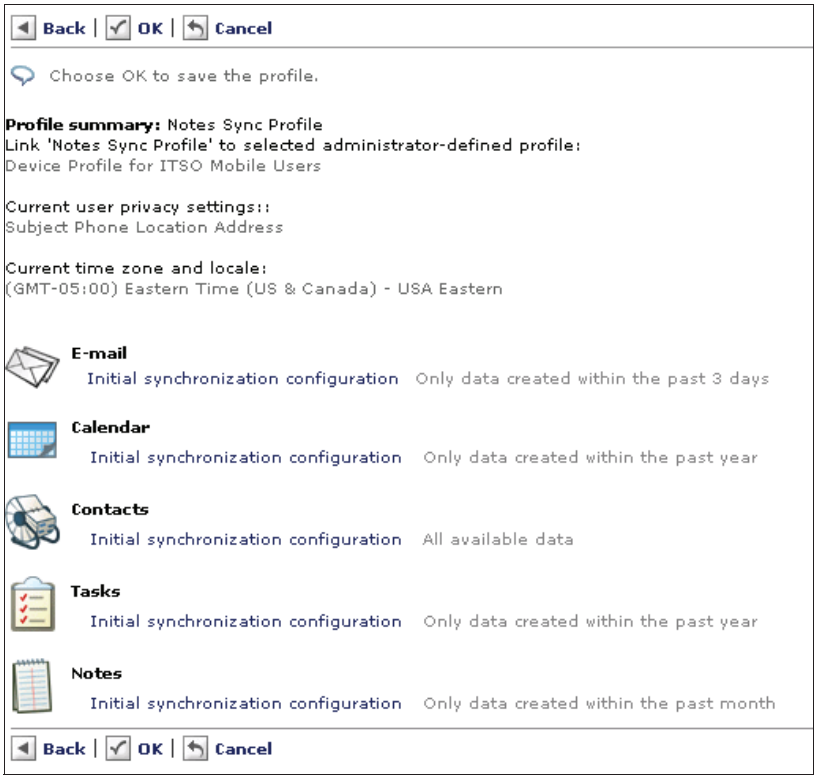


Figure 1-58 Profile summary

34. The e-mail page will be displayed. An e-mail will be sent to Anna notifying her of the newly created profile. You need to provide the right information. Click **OK**.

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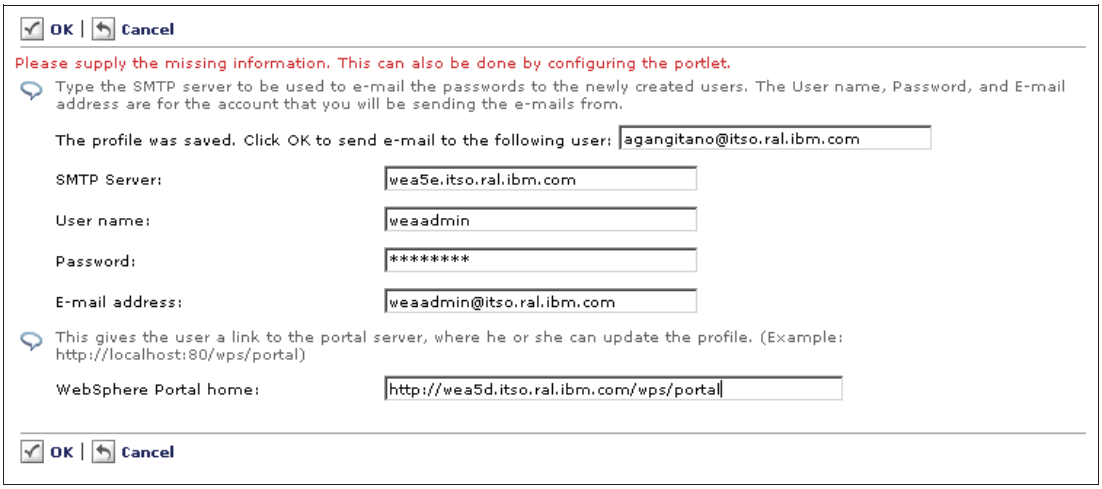


Figure 1-59 Providing missing information

35. Anna will receive an e-mail regarding the newly created device profile.

1.3.5 WebSphere Everyplace Access user configuration

If the user wants to see his PIM data on his portal, he needs to configure his WebSphere Everyplace Access user account with the appropriate synchronization settings.

1. Log in as the user.
2. Navigate to **WEA Home** → **Lotus Notes**. You will need to configure the portlets for accessing the Notes account in the Domino server. The order of configuration has no importance.

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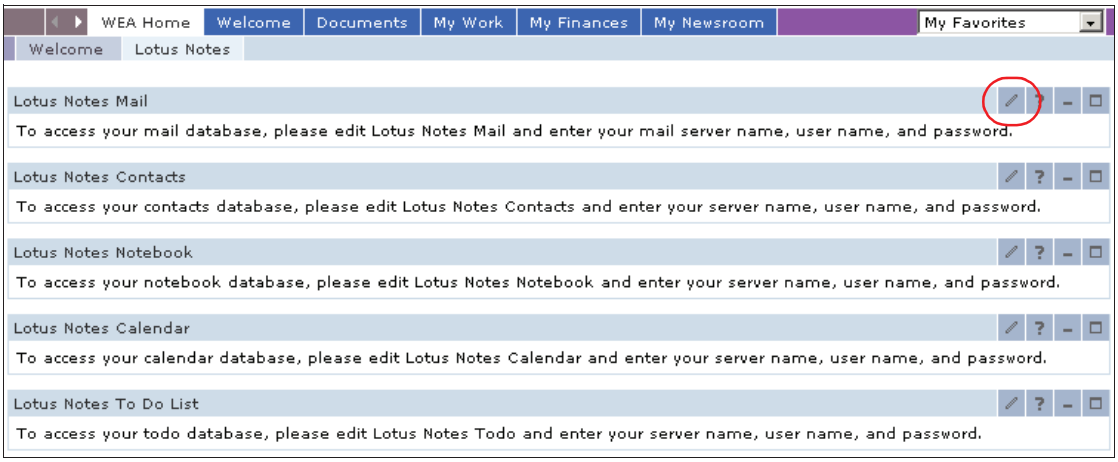


Figure 1-60 User portal - Lotus notes configuration

3. Click the pencil icon for Lotus Notes Mail portlet. Fill in the information needed (Server Name, Database Folder Path, User Name, and Password) and click **Save**.

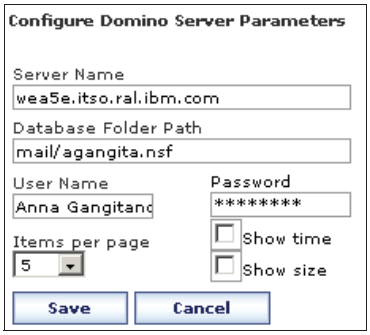


Figure 1-61 Configure Domino Server parameters

4. If the Domino server and its DIIOP and HTTP tasks are running, you will see that the Lotus Notes Mail portlet shows the inbox for Anna Gangitano.

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Figure 1-62 Lotus Notes Mail portlet

5. Continue with configuring the Lotus Notes Contacts. Click the pencil for the Lotus Notes Contacts portlet. Fill in the information on the portlet and click **Save**.

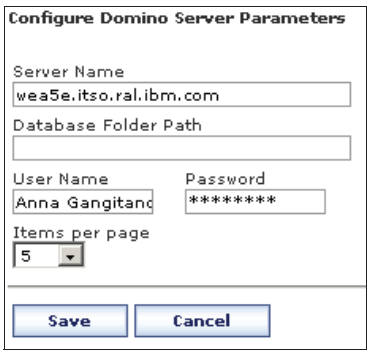


Figure 1-63 Lotus Notes Contacts portlet

6. Next you will configure the Lotus Notes Notebook, Calendar, and To Do List portlets. Fill in the information on the portlets and click **Save**. At the end you will see something like the following figure.

> **Note:** To be able to use the Lotus Notes Notebook portlet the user must use the Domino Web Access template.

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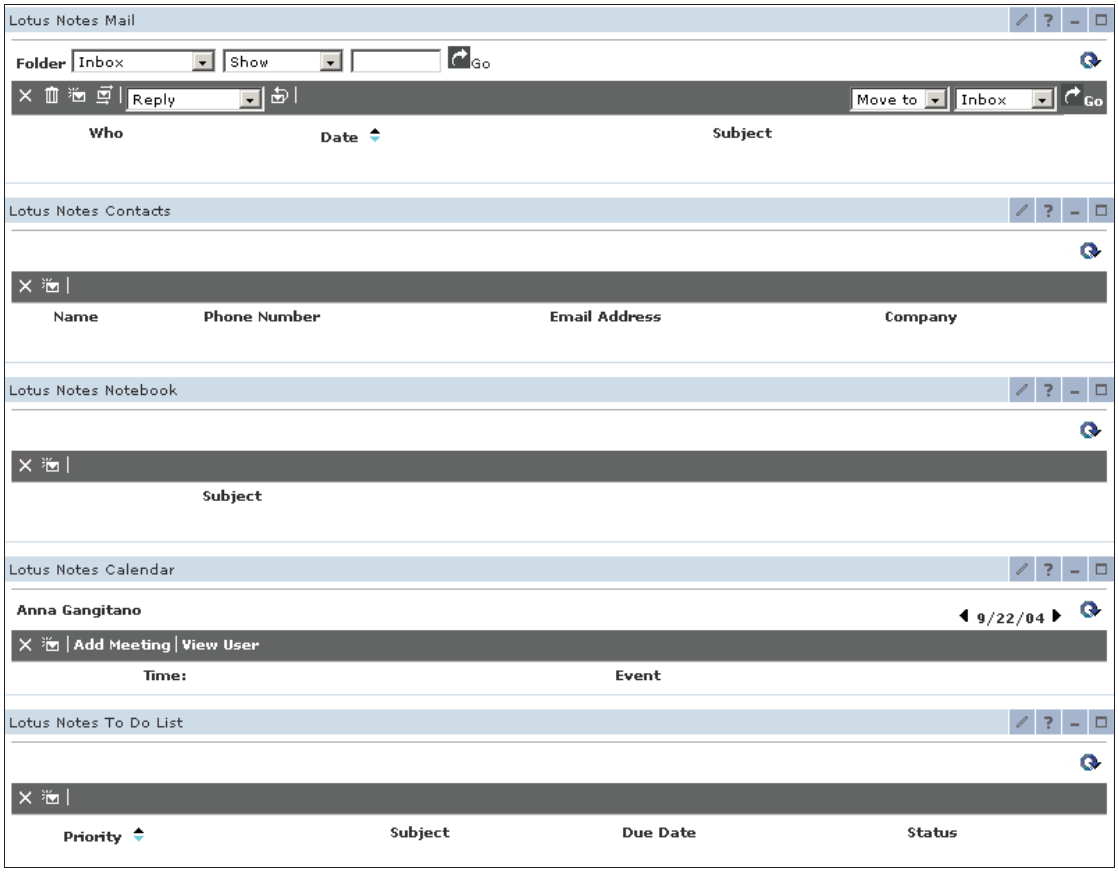


Figure 1-64 Lotus Notes portal page showing all PIM portlets

1.3.6 Synchronize e-mail between a Domino server and PocketPC

To synchronize e-mail between a Domino server and PocketPC:

1. While logged on as user Anna Gangitano, click the New Contact icon on the Lotus Notes Contact portlet, Fill in the information regarding another user (at least the Name and Email Address fields). Click the Save icon to save the contact.

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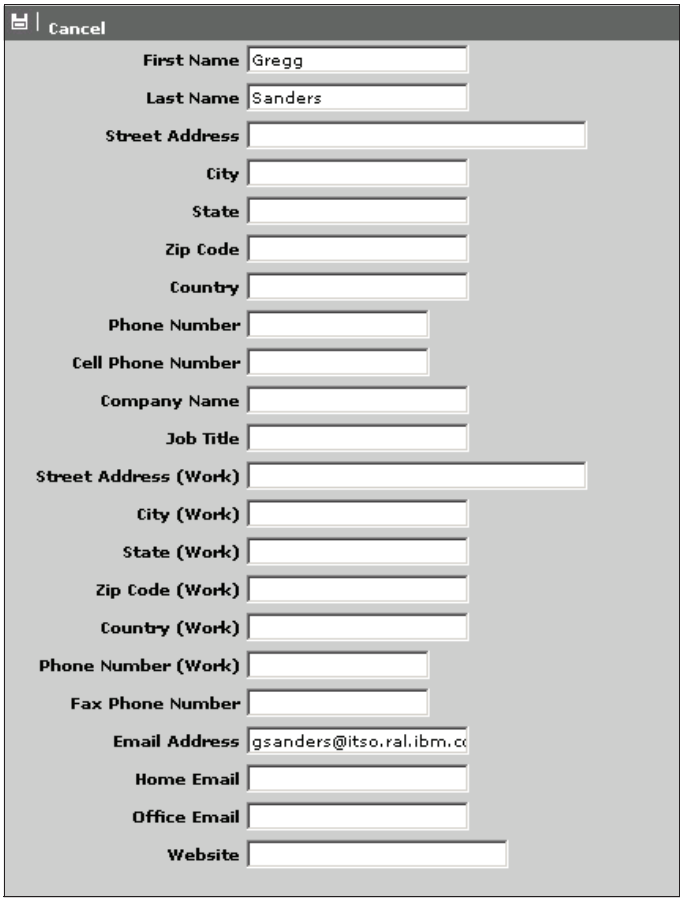


Figure 1-65 Adding a Lotus Notes Contact

2. The contact will be displayed in the Lotus Notes Contacts portlet as below.

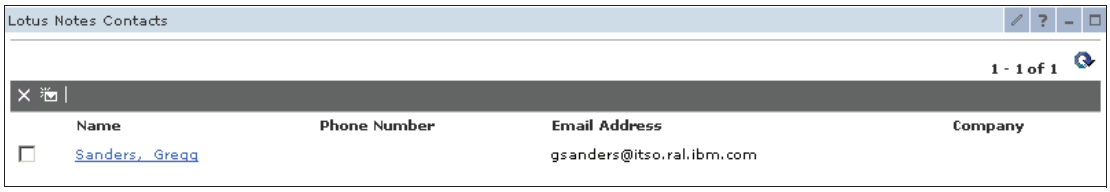


Figure 1-66 Lotus Notes Contact portlet

3. Create a Notebook entry. Click the New Notebook Entry icon on the Lotus Notes Notebook portlet to create an entry. Fill in the information.

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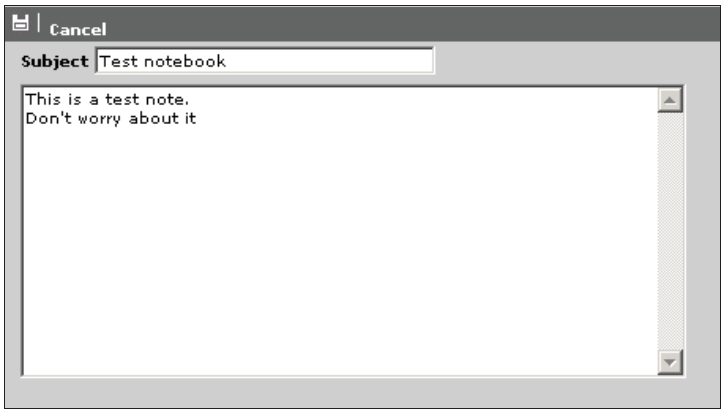


Figure 1-67 Writing a note

4. Click the Save icon to save the Notebook entry. The entry will be displayed in the Lotus Notes Notebook portlet.

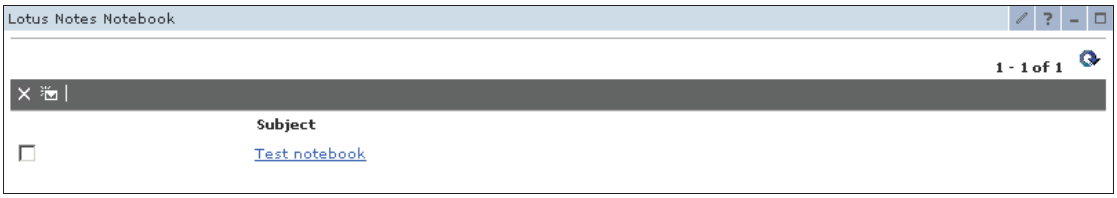


Figure 1-68 Lotus Notes Notebook portlet

5. Add a low priority task using the Lotus Notes To Do List portlet. Click the New To Do icon above the portlet and fill it with the information.

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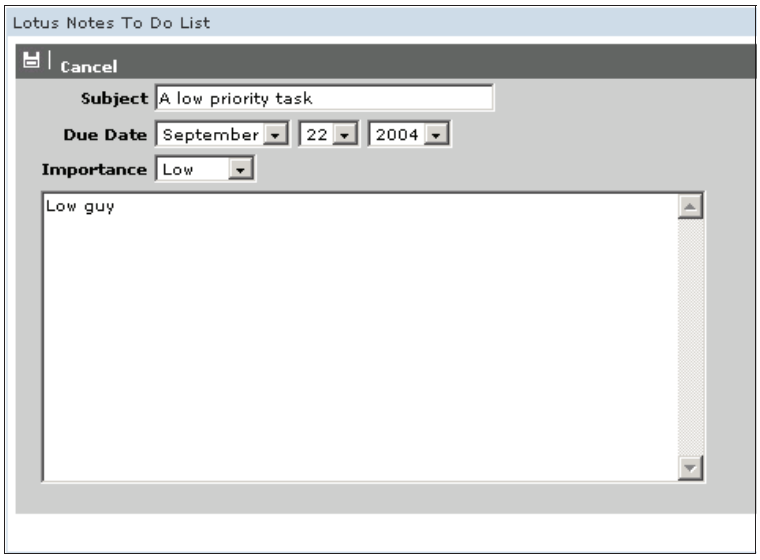


Figure 1-69 Creating a Lotus Notes To Do List (low priority)

6. Click the Save icon to save the task.
7. Add a high-priority task. Click the New To Do icon above the portlet and fill it with the information.

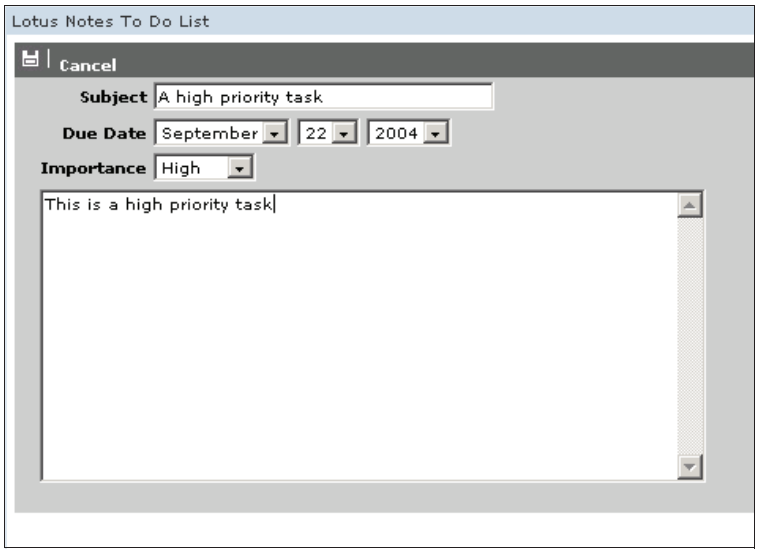


Figure 1-70 Creating a Lotus Notes To Do List (high priority)

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8. Click the Save icon to save the task. The task will be displayed in the portlet.



Figure 1-71 Lotus Notes To Do List portlet

9. We will use iNotes to send an e-mail from Gregg to Anna. Log onto a browser with the <domino server fully qualified hostname>/mail/gsanders.nsf.
10. Select **New** → **Message** and write a message to send to the other user (agangitano@itso.ral.ibm.com® in this example). Click **Send**.

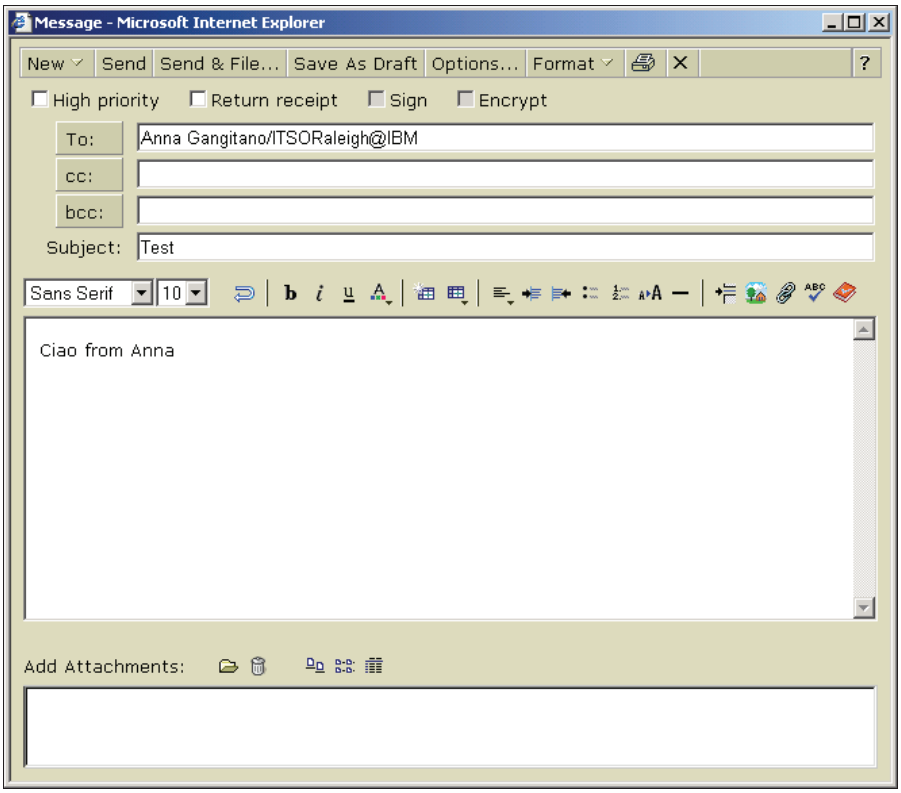


Figure 1-72 Writing a message with iNotes

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11. After sending the e-mail, go back to the browser page. Click the refresh icon on the Lotus Notes Mail portlet. You will see the note you sent from Gregg.

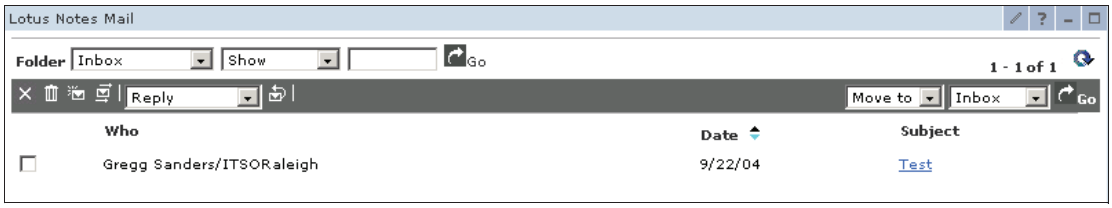


Figure 1-73 Lotus Notes Mail portlet

1.4 Running the sample scenario

In this section we illustrate how to run a sample synchronization process.

1.4.1 View Lotus Notes portlet from the device browser

The Lotus Notes portlet can be also viewed from the browser on your device, for example, a PocketPC device. This is an online access; that is, no Everyplace Client is required.

1. Open the browser, and type in the WEA portal address. The WEA welcome page is shown.

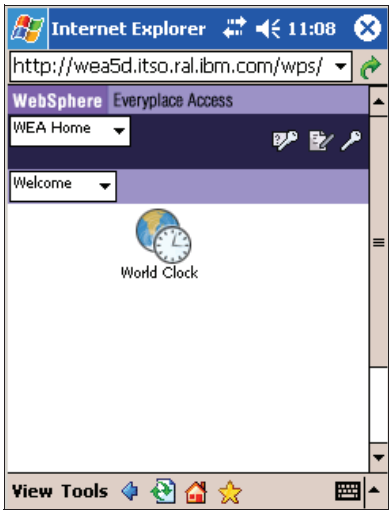


Figure 1-74 WEA welcome page

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2. Click the log in icon to log into the portal. Provide the user ID and password and select **Log in**.

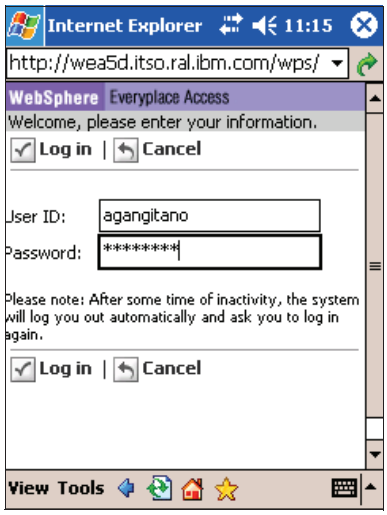


Figure 1-75 Log in page

3. The Lotus Notes portlets are placed in the Lotus Notes page. Select **Lotus Notes** from the drop-down menu.

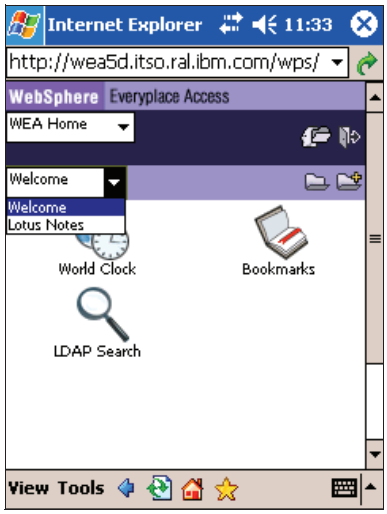


Figure 1-76 WEA home page

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4. Each Lotus Notes portlet is displayed as an icon. Click each of the portlet icons to see the contents of the portlets.

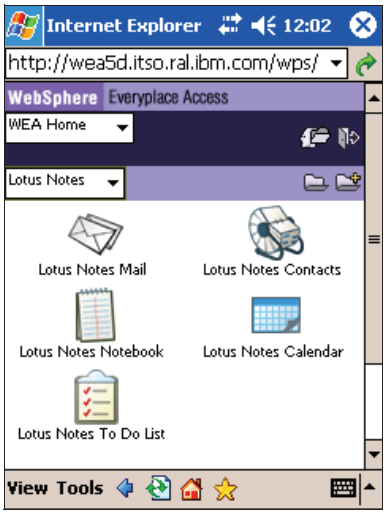


Figure 1-77 Lotus Notes page

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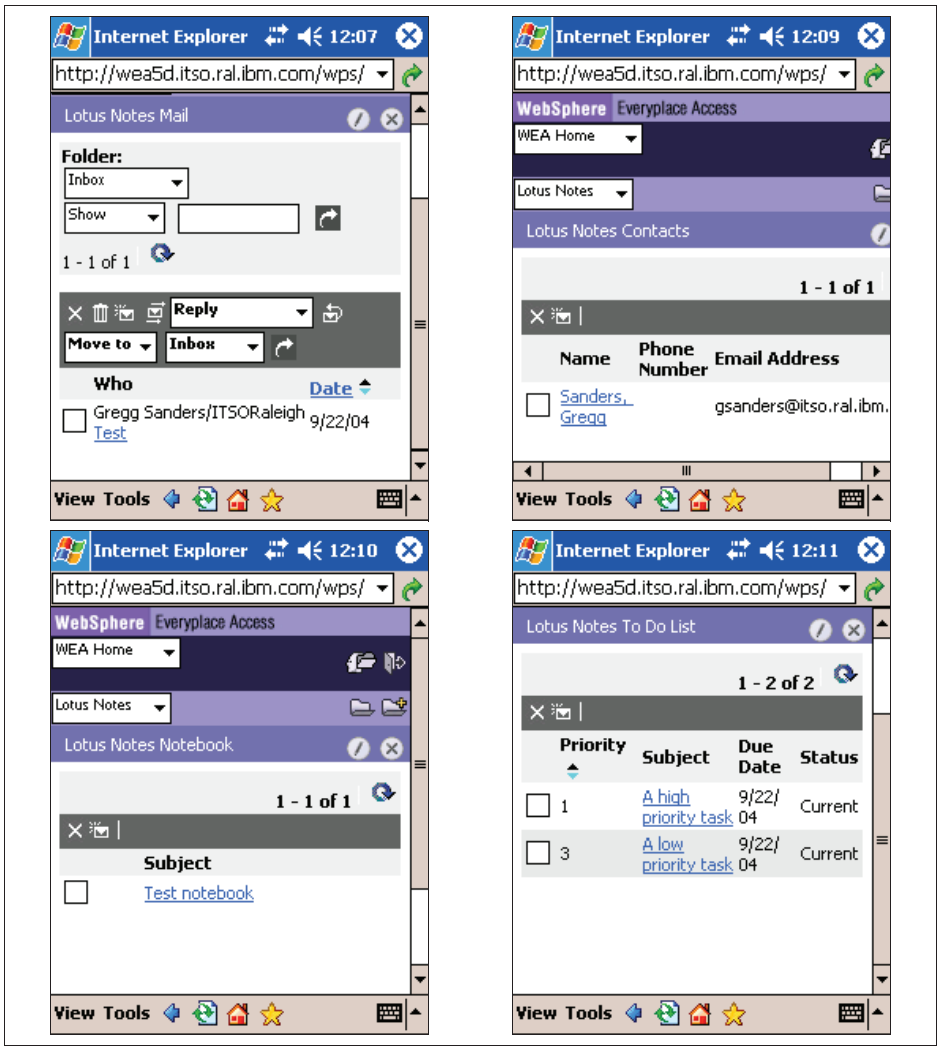


Figure 1-78 Lotus Notes mail, Contacts, Notebook, and ToDoList

1.4.2 Synchronize e-mail using the Everyplace Client on a PocketPC

If your end users will be using Pocket PCs to synchronize e-mail with a Domino server, they must first disable address name lookup on the device:

1. Open the e-mail application.
2. Select the Tools menu.
3. Select **Options**.
4. Select the **Address** tab.

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5. For the setting "In Contacts, get addresses from:", set the selection to None.

If there are any services that are used to verify names in an online address book checked, uncheck these services.

You will need to configure/check the settings on Everyplace Client.

1. Make sure the PocketPC device can access the WEA portal.
2. Open the Everyplace Client. You can find it under **Start** → **Programs**.

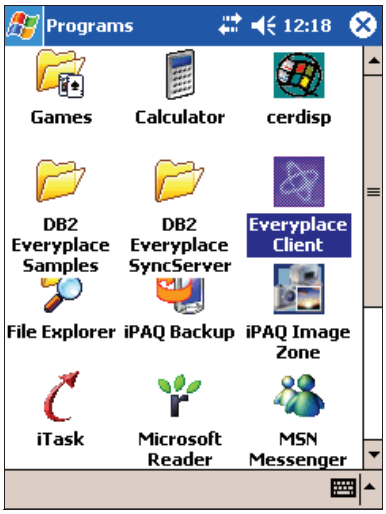


Figure 1-79 Programs directory on PocketPC

3. Log in using the user ID and password of the user (Anna Gangitano in this example). Check **Automatically log me on** if you do not want to have to insert the user ID and password again.

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Figure 1-80 Everyplace Client - Login page

4. You will see the Everyplace Client home page after login.

> **Note:** If it is the first time you login from the Everyplace Client, you will need to configure. For details see *IBM WebSphere Everyplace Access V5 Handbook for Developers and Administrators Volume I: Installation and Administration*, SG24-6462.

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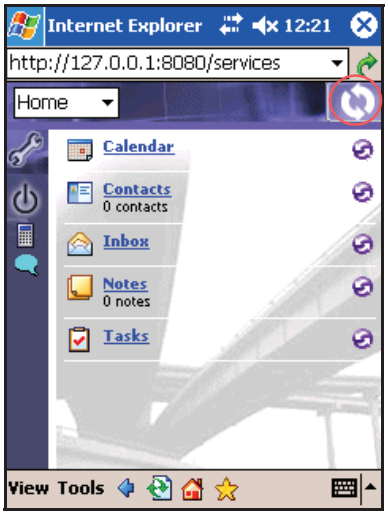


Figure 1-81 Everyplace Client - Home page

5. You are ready to start the initial synchronization. Click the synchronization icon at top right corner to start synchronization.

> **Note:** If the Synchronization icon does not appear, check your connection. The Everyplace Client will display the following screen to indicate sync in progress.

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Created from multco on 2024-05-23 23:10:41.

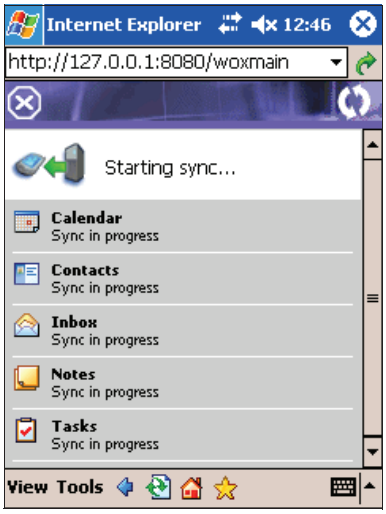


Figure 1-82 Everyplace Client - Synchronization in progress

6. Since this is the initial synchronization you will see the following message.

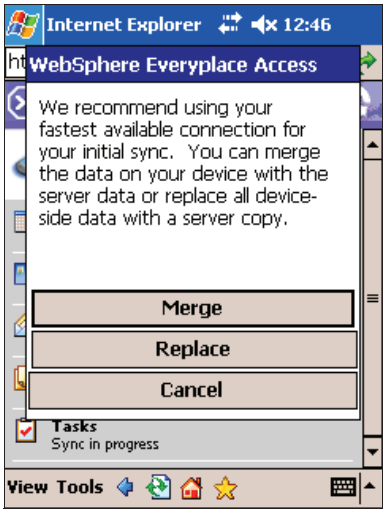


Figure 1-83 Everyplace Client - First time synchronization message

7. Once the Synchronization finishes, the Everyplace Client will return to the home page. A green exclamation mark indicates the item has been synchronized with data.

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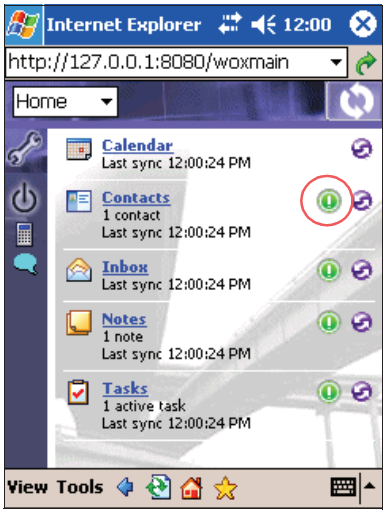


Figure 1-84 Everyplace Client - Successful synchronization

8. Now you can examine the Lotus Notes Contacts, the Inbox, the Notes, and the Tasks.

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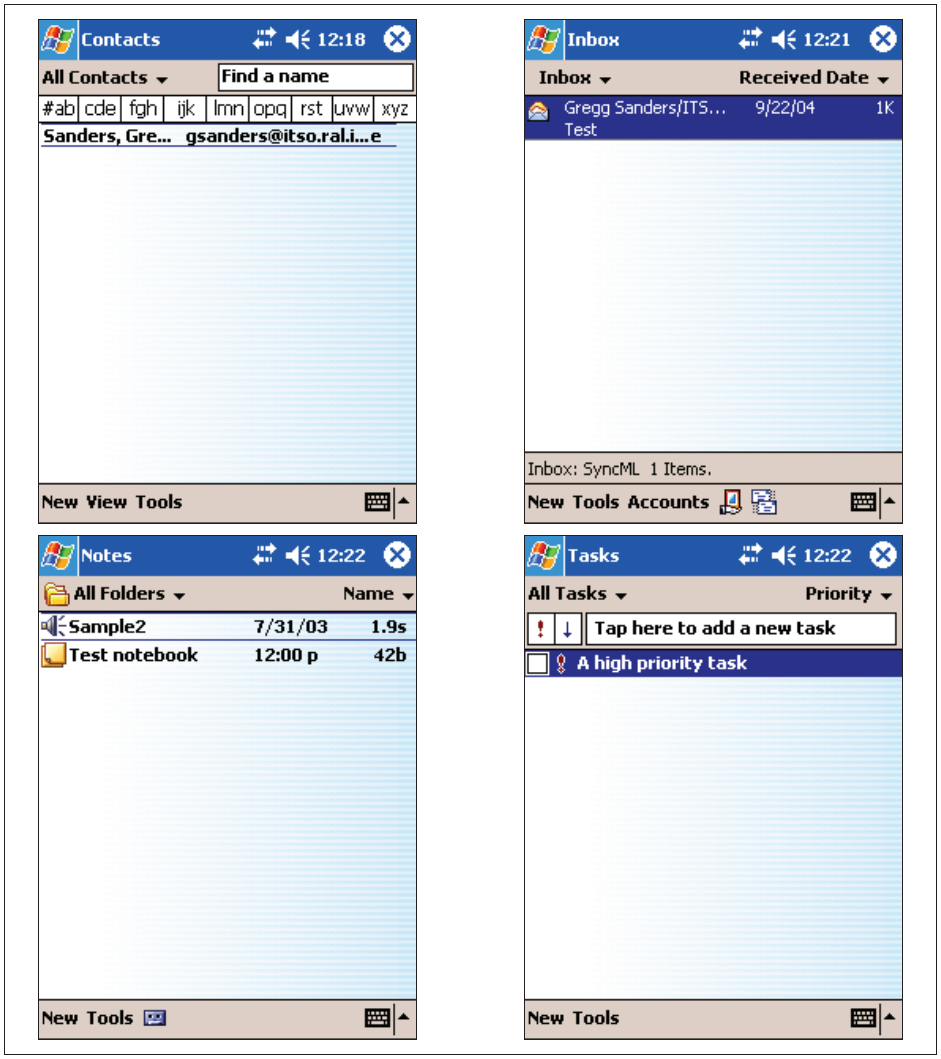


Figure 1-85 Everyplace Client - Notes Contacts, Inbox, Notes, and Tasks pages

9. The initial synchronization is completed.

> **Note:** When you open the Inbox, make sure you are looking into the SyncML inbox. If you are not in the SyncML inbox, switch to it at this time.

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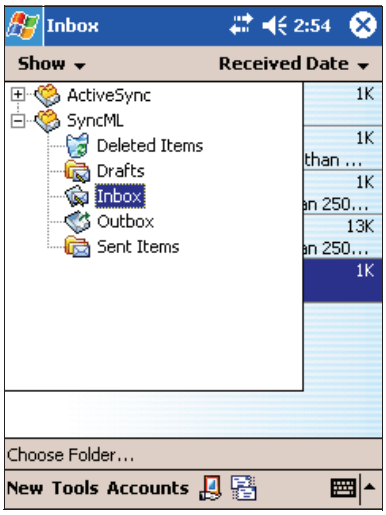


Figure 1-86 The SyncML folders

Extended synchronization

Next we will see how synchronization filters work. We will send an e-mail to user Anna Gangitano with different attachment sizes and different attachment extensions. We will also invite her to a non recurring event and a recurring event.

1. We will send an e-mail with an attachment (less than 250 K with .doc extension). The filter we have already created for Anna Gangitano allows this message to be synchronized. Open Lotus Notes in a windows browser with Gregg as the user.
2. In the Inbox, click **New** to compose a new e-mail for Anna. Attach the file (less than 250 K with .doc extension). Click **Send**.

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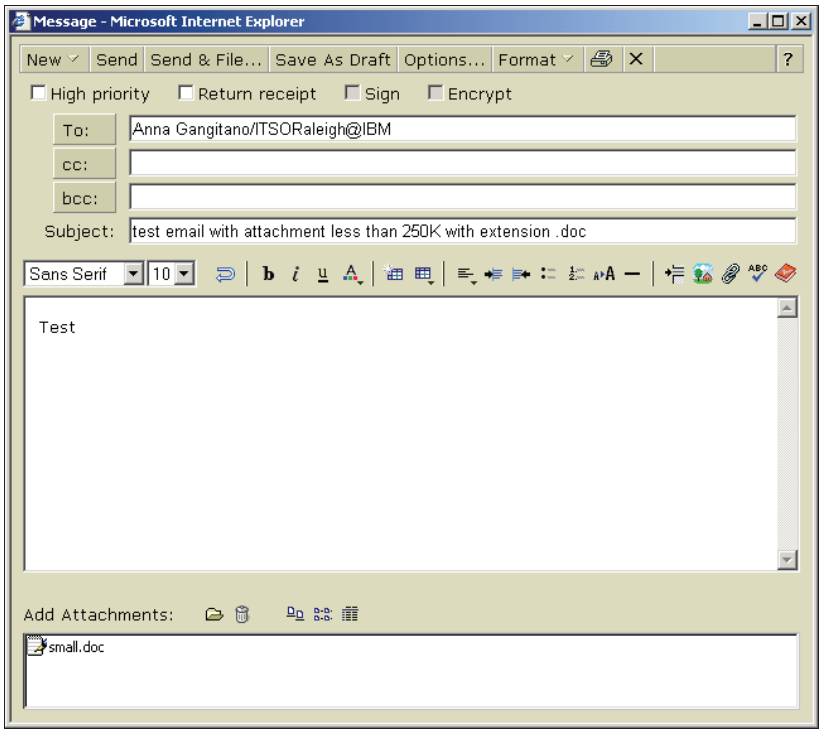


Figure 1-87 E-mail with an attachment less than 250 K with a .doc extension

3. Now we will send an e-mail with an attachment (less than 250 K with .txt extension). The filter we have already created for Anna Gangitano does not allow this message to be synchronized. Open Lotus Notes in a Windows browser with Gregg as the user.
4. In the Inbox, click **New** to compose a new e-mail for Anna. Attach the file (less than 250 K with .txt extension). Click **Send**.

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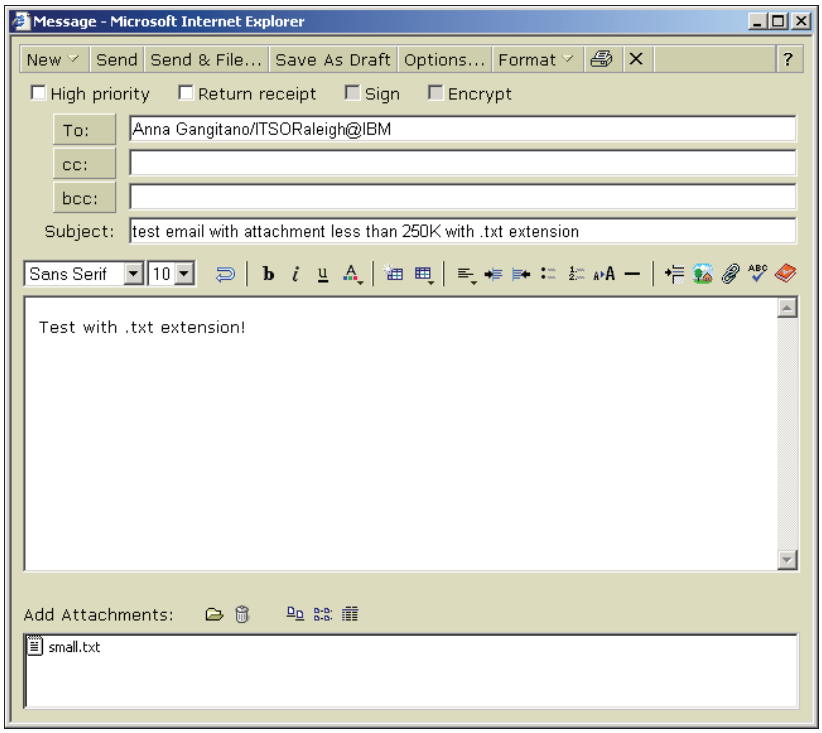


Figure 1-88 E-mail with an attachment less than 250 K with a .txt extension

5. Now we will send an e-mail with an attachment (larger than 250 K with .doc extension). The filter we have already created for Anna Gangitano does not allow this message to be synchronized. Open Lotus Notes in a Windows browser with Gregg as the user.
6. In the Inbox, click **New** to compose a new e-mail for Anna. Attach the file (larger than 250 K with .doc extension). Click **Send**.

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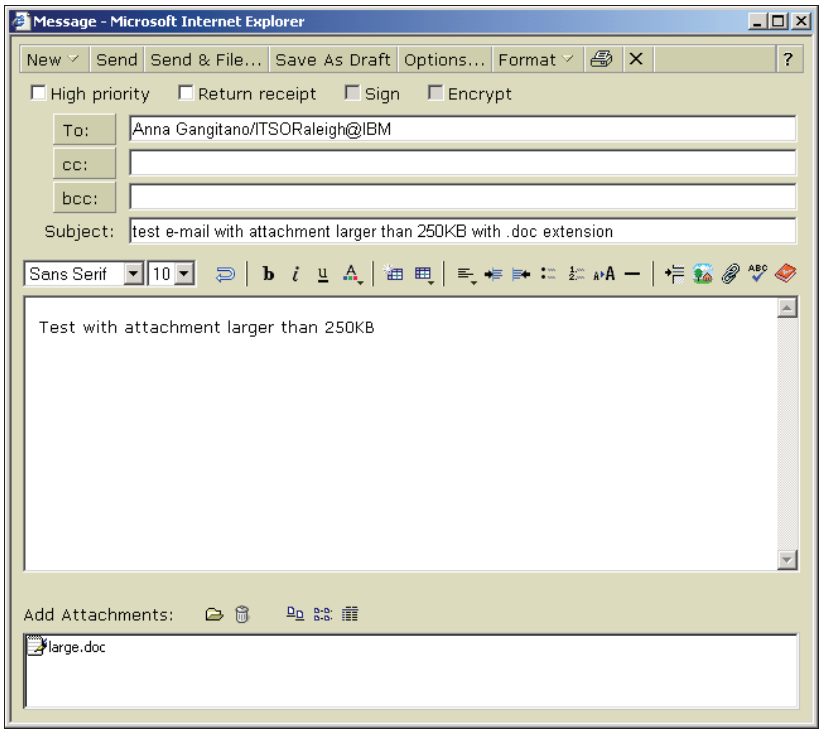


Figure 1-89 E-mail with an attachment larger than 250 K with a .doc extension

7. In the Lotus Notes Client, schedule a non-recurring calendar entry and invite Anna to the calendar entry. Click **New Calendar Entry** and enter the meeting information and select **Invitation**.

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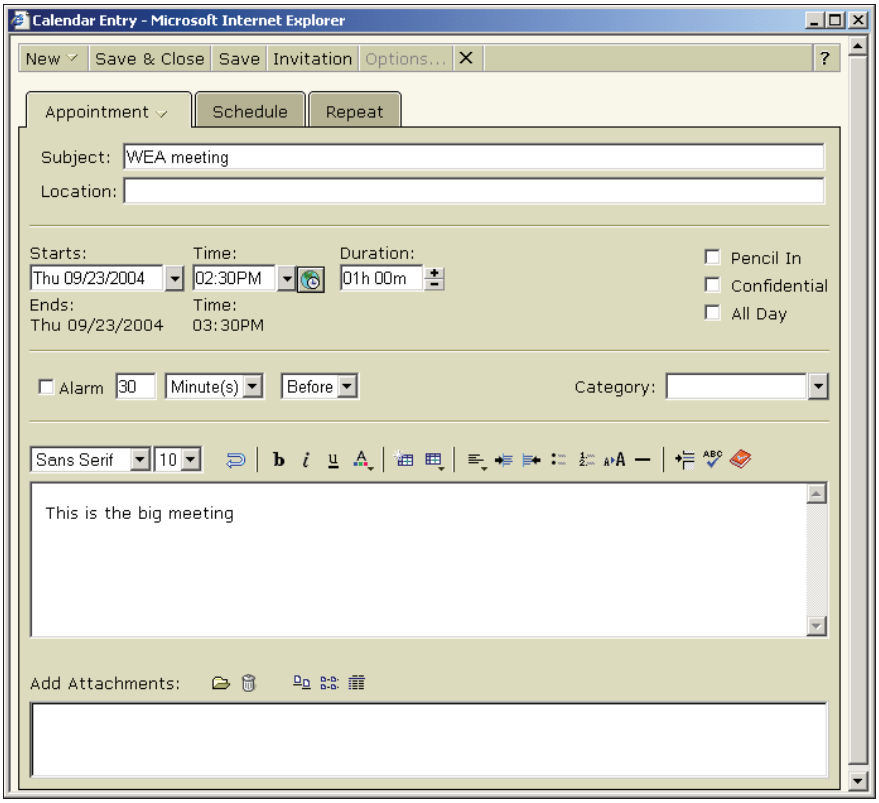


Figure 1-90 Creating a Calendar Entry

8. Enter `Anna Gangitano` and select **Save & Send**.

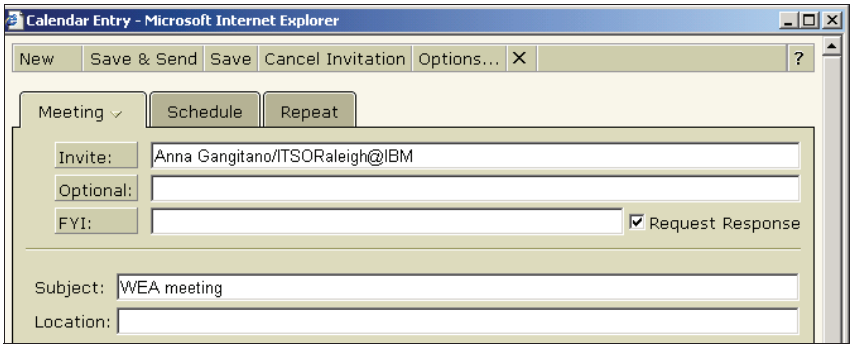


Figure 1-91 Adding an invitation to the Calendar Entry

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9. You will create another Calendar Entry. Click the **Repeat** tab.

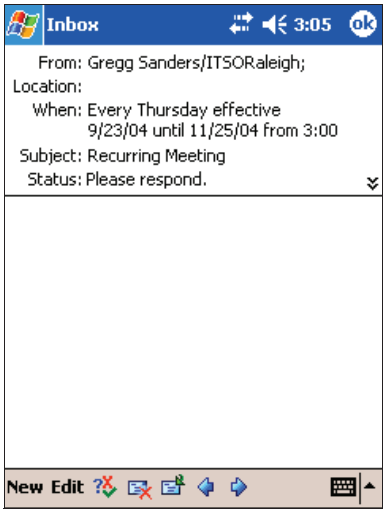


Figure 1-92 Creating a recurring meeting

10. Schedule a meeting for 10 weeks.

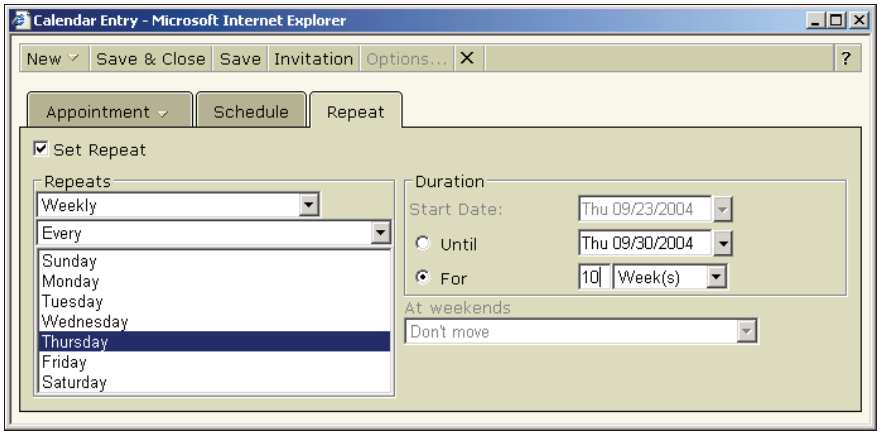


Figure 1-93 Repeat for 10 weeks

11. Invite Anna and click **Save & Send**.

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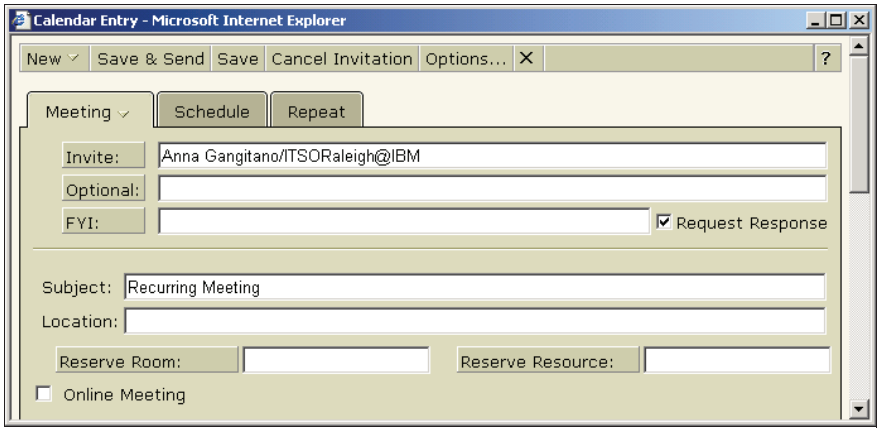


Figure 1-94 Invite Anna to the recurring meeting

The following steps will be carried out in the PocketPC device.

1. On the Everyplace client, click the synchronization icon. When the synchronization completes you will see the following page.

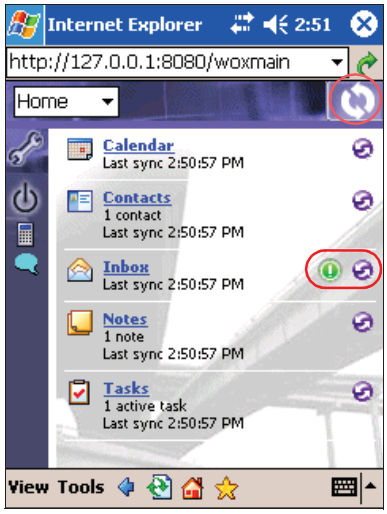


Figure 1-95 Everyplace Client - Home page

2. Click the inbox icon.

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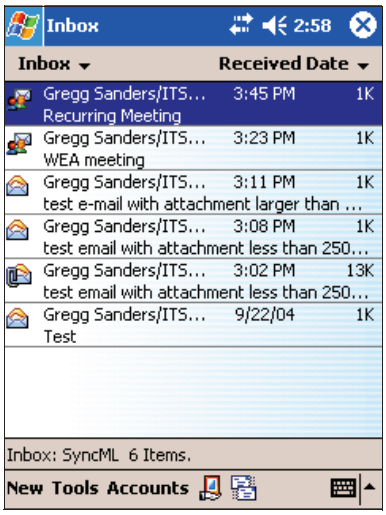


Figure 1-96 Inbox folder

3. Click the e-mail items to view the content. You will see the following screens. Click **OK** to close each item.

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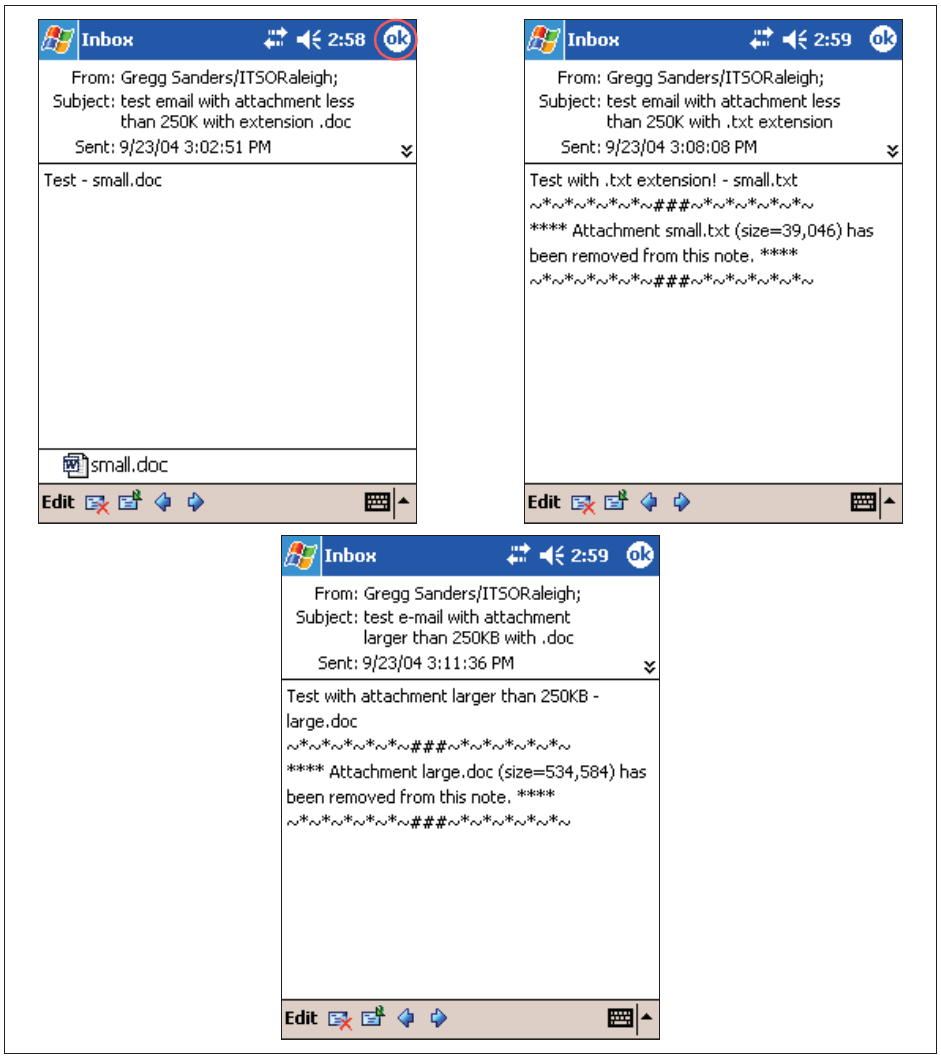


Figure 1-97 E-mail with a small .doc file, a small .txt file, and a large .doc file

Note: The line indicates that the attachment has been removed. The attachment size and file name is also stated in the lines. The above screen capture indicate that the synchronization profile has filtered out the attachments based on the profile settings.

4. Go back to the SyncML inbox, and click the non-recurring meeting invitation. You will see the details of the meeting invitation.

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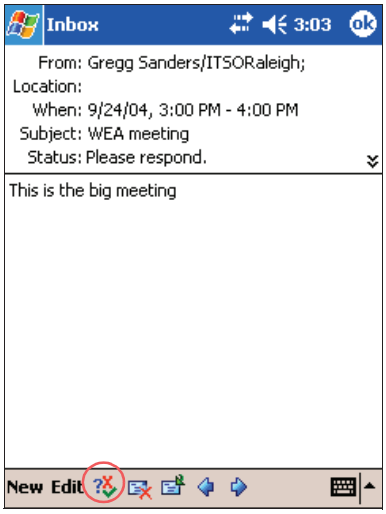


Figure 1-98 Non-recurring meeting invitation

5. You will decline this invitation. Click the decline icon.

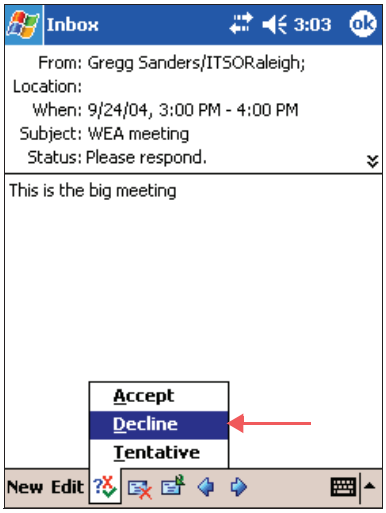


Figure 1-99 Declining the invitation

6. A dialog will display regarding the response. Select **Send the response now** and click **OK**.

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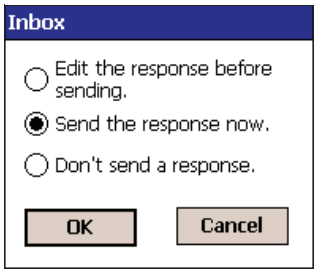


Figure 1-100 Dialog regarding the response

7. Click **OK** to close and return to the inbox.
8. In Inbox click the recurring meeting invitation.

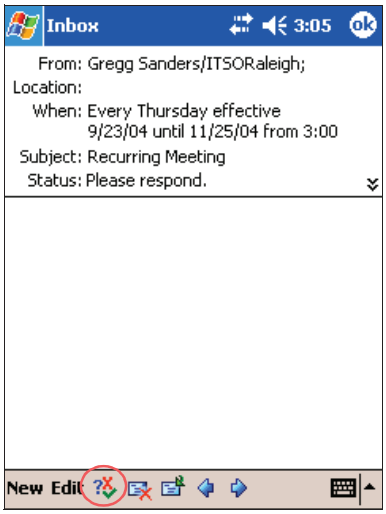


Figure 1-101 Recurring meeting invitation

9. You will accept this invitation. Click the Accept icon. A dialog will be displayed regarding the response. Select **Send the response now** and click **OK**.
10. The recurring meeting will be displayed in the Calendar. Switch to the monthly view.

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Figure 1-102 Monthly calendar view

11. You will schedule a recurring meeting invitation from the PocketPC device. In the calendar, click **New** and fill in the following information for the entry. Click **OK** to save the calendar entry. Close the calendar.

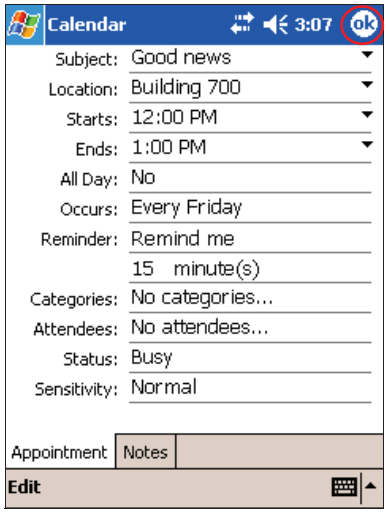


Figure 1-103 Scheduling a recurring meeting invitation from the PocketPC

12. You have declined a non-recurring meeting invitation and accepted a recurring meeting invitation. You have also scheduled a recurring calendar

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entry from the device. On the Everyplace Client home page, you will see that you have unsent messages.

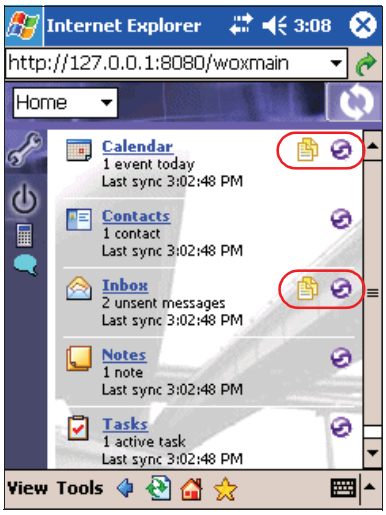


Figure 1-104 Everyplace Client - Home page

13. You will need to synchronize data with the Domino server. On the PocketPC, click the Synchronization icon.

Now you will open the attachment file that has not been synchronized to the device from the Lotus Notes portlet.

1. Log in to the WEA portal as Anna Gangitano.
2. Change to the **WEA Home** → **Lotus Notes** page. In the Lotus Notes Mail portlet, click the link for the e-mail with attachment size larger than 250 KB.



Figure 1-105 Lotus Notes Mail portlet

3. Click the attachment link to open the attachment.

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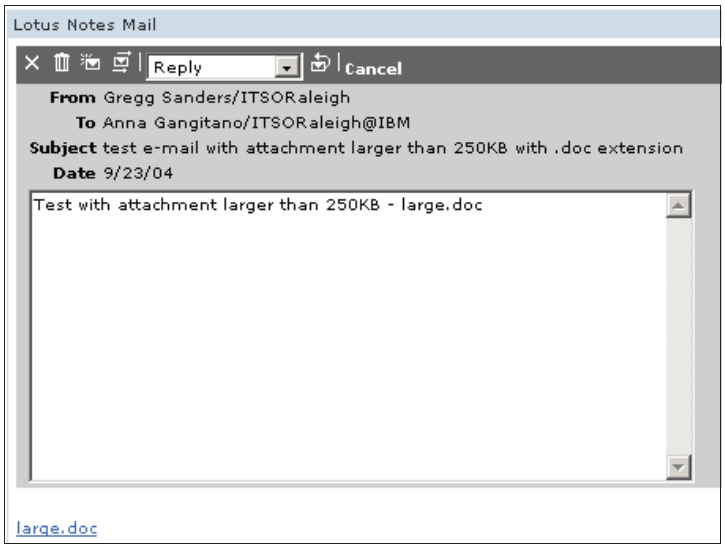


Figure 1-106 Opening the attachment

4. Click the attachment link. You will be prompted to either open or save the document.

We have completed the configurations for synchronization and have performed several synchronizations between the Domino server and the PocketPC device.

1.4.3 Synchronize e-mail using Everyplace Client on a Palm OS

Requirements to this section are:

- Palm device properly installed
- A properly configured e-mail user account on the device

We have used Palm OS software Version 5.2.1.

1. Click the IBM WEA icon.

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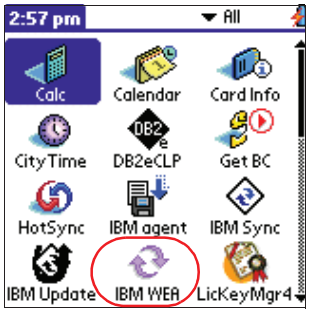


Figure 1-107 Home

2. Click the **Synchronization** button in the middle of the page.



Figure 1-108 SyncML Client

3. After synchronization is complete, you should see a Sync Complete message. Click **Done**.
4. Click the **Home** button to return to the Applications page.
5. We will start by examining the address book. Click **Phone** and then move the arrow down to select **Contacts**. Open the contact by clicking it. You should now be able to see the details of the new contact. Click **Done**.

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Figure 1-109 Address book - Contact details for new contact

6. Click the **VersaMail** button.



Figure 1-110 Versa Mail start icon

7. You will be taken to the inbox of your ESS user.

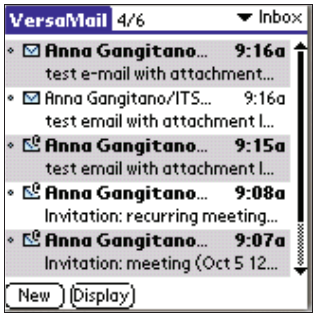


Figure 1-111 E-mail inbox

8. Select the e-mail with the subject `test e-mail with attachment larger than 250KB with .doc`.

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Figure 1-112 E-mail with an attachment larger than 250 KB

You will see a message in the e-mail body indicating that the attachment was removed because it was greater than 250 KB, as defined in our default device profile.



Figure 1-113 E-mail with an attachment larger than 250 KB

9. Open the e-mail with the subject `Test with .txt extension`! Again you will see that the attachment was removed because it did not have a .doc extension.

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Figure 1-114 E-mail with an attachment smaller than 250 KB with a .txt extension

10. Go back to the inbox and open the e-mail with the subject `test email with attachment less than 250KBE-mail with a .doc extension`. This time, you will notice that the attachment was not removed because it met the criteria of being less than 250 KB and having a .doc extension.



Figure 1-115 E-mail with a .doc attachment

11. Open the attachment by selecting the paper clip in the top-right corner. Click **View** on the message that comes up. You will see the attachment in a Microsoft Word Viewer.

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Figure 1-116 Attachment viewed using Microsoft Word Viewer

12. Go back to the inbox and open the invitation e-mail.



Figure 1-117 Invitation meeting

13. Select the paper clip in the top-right corner.



Figure 1-118 Attachments details

14. Click **View** to see the meeting details.

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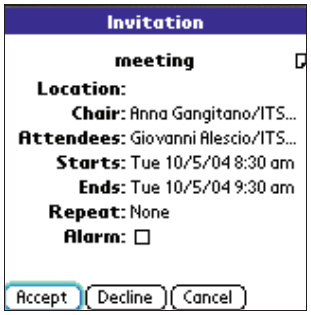


Figure 1-119 Invitation meeting details

15. Click **Accept** to accept the invitation and add it to the calendar.
16. Go back to the inbox and open the other invitation e-mail. Select the paper clip in the top-right corner. In the dialog box, click **View** to see the meeting details. Click **Decline**.
17. Return to the inbox to see that the two invitation e-mails are moved from the Inbox folder to the Outbox folder.

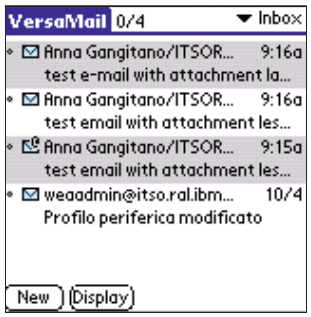


Figure 1-120 Inbox

18. Now perform another synchronization to send the notification of your acceptance and declination.
19. Select **Home** and click the Calendar icon.

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Figure 1-121 Calendar

20. You have two meetings today. Select the first one to see the details of the one you have just accepted.

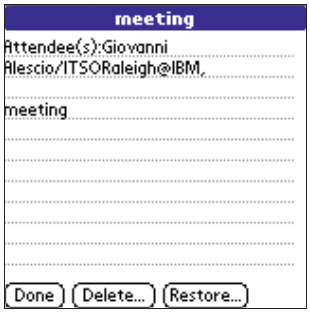


Figure 1-122 Calendar - Meeting details

21. Click **Applications** to return to the Applications page.

22. Click **To Do List**.

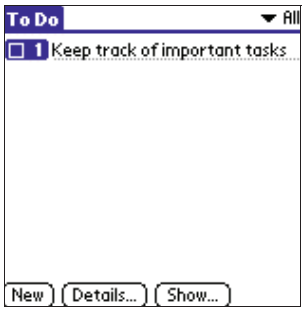


Figure 1-123 To do list

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23. Click **Applications** to return to the Applications page.
24. We will now create an e-mail note and send it to another user. Click **VersaMail**.
25. Click **New**.
26. Enter details as shown below.



Figure 1-124 New message

27. Click **Outbox**.
28. Go to the Outbox folder to check the mail that is ready to be sent.

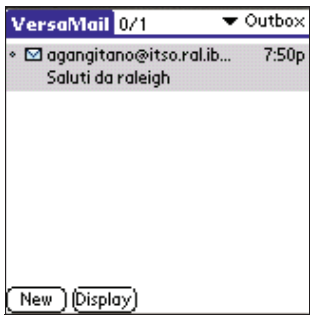


Figure 1-125 Outbox folder

29. Click **Applications** to return to the Applications page.
30. Click **SyncML** and initiate a synchronization. During synchronization, the unsent message will be sent to the intended recipient.
31. Go to the VersaMail Sent folder. Your sent e-mail is there.

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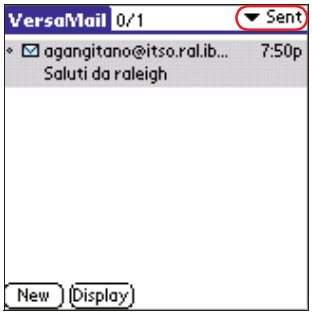


Figure 1-126 Sent folder

32. This completes our demonstration of synchronization with the Palm.

Verifying synchronization

We now need to verify the synchronization by checking that e-mail notes sent from the client devices reached their intended recipients. In our examples, all e-mail notes sent from the client device were intended for Anna Gangitano. We will therefore check Anna Gangitano's inbox.

1. Log in to the WEA portal using Anna Gangitano's ID and password.
2. Go to the Lotus Notes section (we have already configured the portlets for this user. Otherwise, we could use the Domino Web access).



Figure 1-127 Inbox of Anna Gangitano

3. You should see the e-mail notes from Giovanni Alescio.

1.4.4 Synchronization without using the online user WEA portlet

It is possible for a user to synchronize the PIM and data without making any configuration on his portal. To show this new feature you need to create a new user (Manuel Rodriguez in this example) from the Domino Server. You will add it at the essusers group and give access to ESSadmin in the user's mail account.

1. Log in to the WEA portal as the administrator. Navigate to **Websphere Everyplace** → **Everyplace Synchronization Server Administration** →

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Synchronization Administrator for User. The Synchronization Administrator for User portlet will be displayed. Search the users.

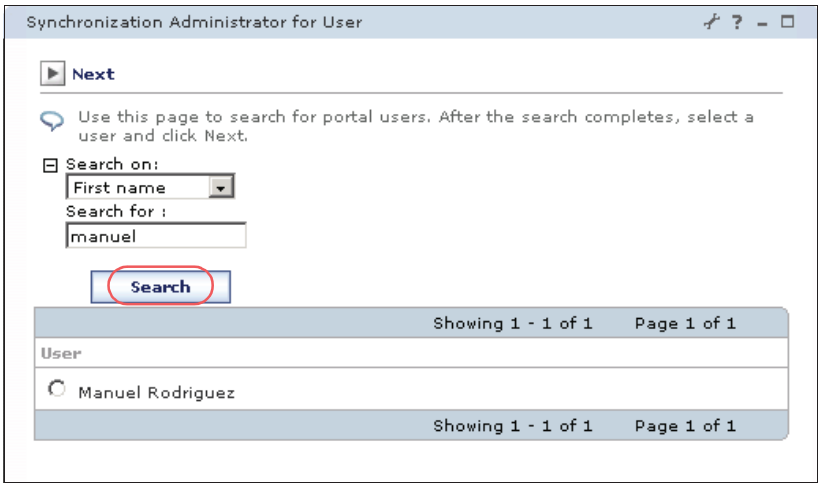


Figure 1-128 Search portlet for users

2. Select the user from the result list and click **Next**.
3. Click **Create new device profile**.

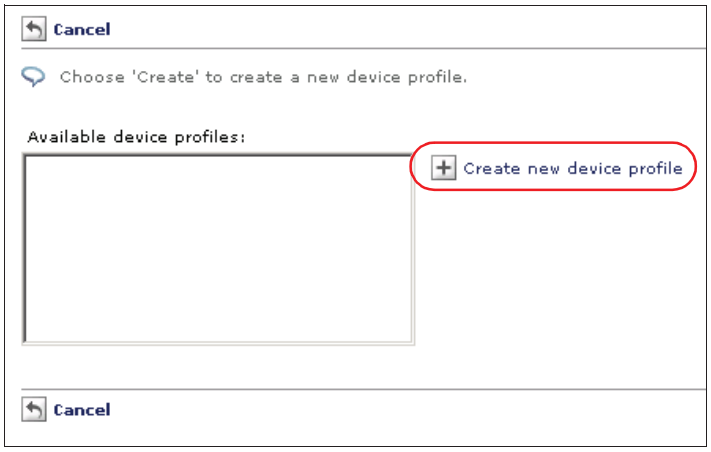


Figure 1-129 List of available device profiles

4. Provide a name for your new profile and click **Next**.

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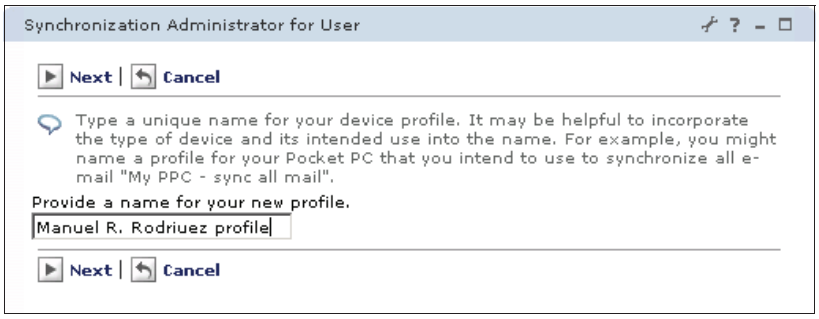


Figure 1-130 Synchronization Administrator for User

5. Specify to link the new profile to the administrator profile ITSO Mobile User. Click **Next** to continue.

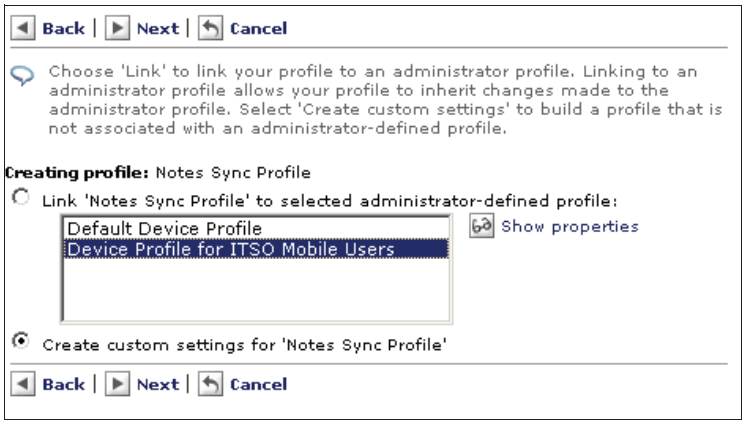


Figure 1-131 Creating profile - Link

6. The initial synchronization settings page will display. You will specify how much data will be synchronized to the device when the first synchronization occurs. These initial synchronization settings are different from the normal synchronization settings that you have set, and only take effect during the first synchronization. You will accept the default settings. Click **Next**.

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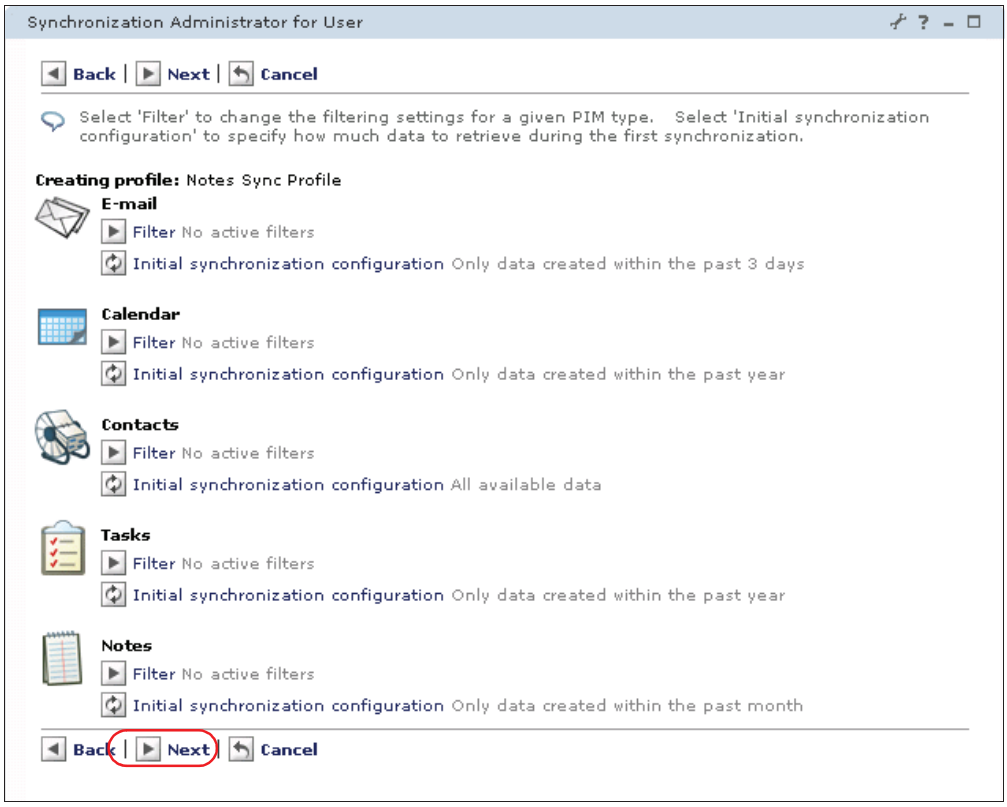


Figure 1-132 Synchronization Administrator for User

7. Specify the privacy settings for what information can be logged. Select the appropriate boxes and click **Next**.

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Figure 1-133 Privacy settings

8. Select a time zone and click **Get locales for this time zone**. Select a local for the synchronization profile and click **Next**.



Figure 1-134 Selecting time zone and locale

9. The user profile summary will display. Click **OK** to save the user profile.

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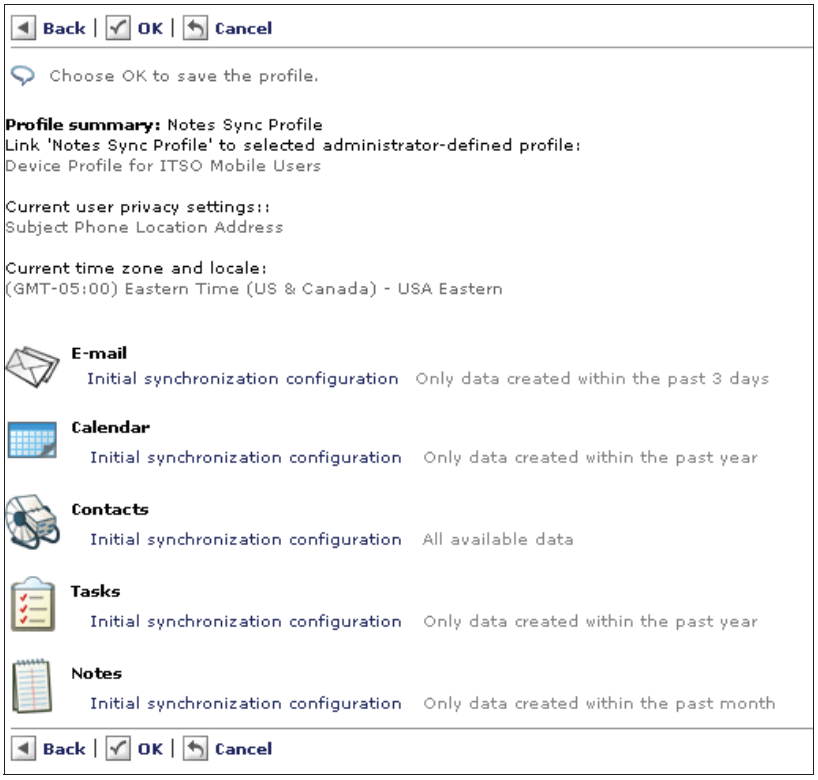


Figure 1-135 Profile summary

10. The e-mail page will be displayed. You need to provide the missing information in the following page. Click **OK**.

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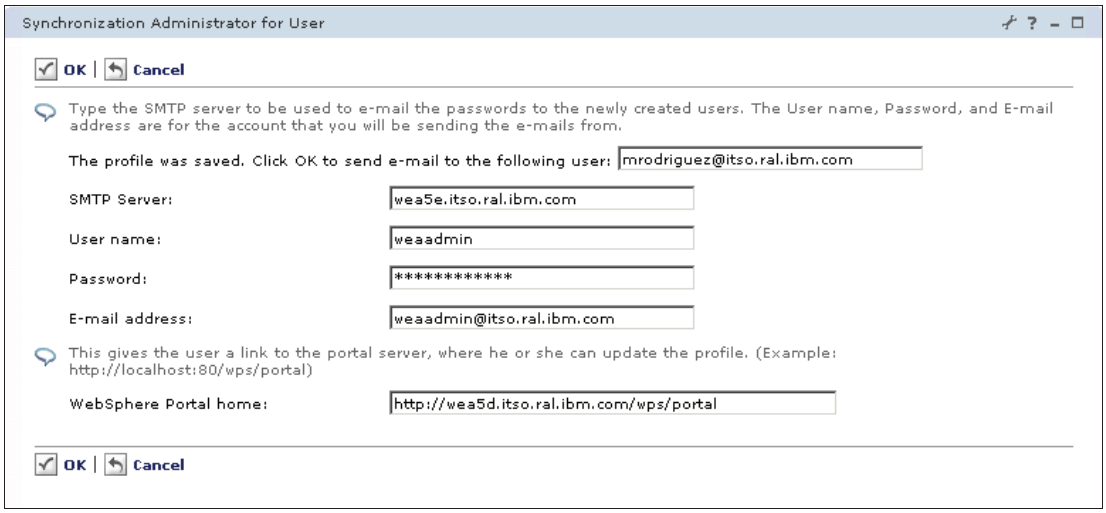


Figure 1-136 Providing missing information

11. Manuel will receive an e-mail regarding the newly created device profile.

The following steps are performed on the PocketPC device.

1. Log in to the Everyplace Client in your device as Manuel Rodriguez.
2. Click the Synchronization icon on the top right corner. You will receive your e-mail directly on your device without the need for the user to make a configuration.

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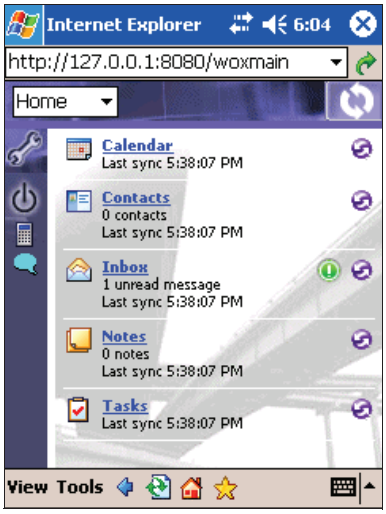


Figure 1-137 Everyplace Client - Home page

1.5 Hints and tips

In this section we provide some hints and tips.

1.5.1 Troubleshooting

There are many things that can go wrong when configuring ESS with Lotus Domino. A good source of information on what to look for is the Troubleshooting section in the InfoCenter, which can be accessed by selecting **IBM WebSphere Everyplace Access Getting Started Guide → Everyplace Synchronization Server → Troubleshooting**.

1.5.2 Log files

If you have carefully followed the instructions and still cannot get synchronization to work on your WebSphere Everyplace Access server, you may want to start looking at the log files. Log files are a great source of information on what happened or what went wrong during runtime. For descriptions of log files and how to use them, go to the Troubleshooting section in the InfoCenter, which can be accessed by selecting **IBM WebSphere Everyplace Access Getting Started Guide → Everyplace Synchronization Server → Logging**.

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1.5.3 Tuning

If you find that synchronization is taking a long time, there are a few things that can be done to improve the performance of the Synchronization Server. Select **IBM WebSphere Everyplace Access Getting Started Guide** → **Everyplace Synchronization Server** → **Tuning** for more information on optimizing your server.

1.5.4 Order does matter

It needs to be emphasized that the order in which you install your software components does matter. It is paramount that the local Lotus Notes client is installed and *configured* with the Adapter Admin user before installing the Everyplace Synchronization Server. Failure to do this may result in the Synchronization Server failing to connect to the Lotus Domino Server.

1.6 Resources

The WebSphere Everyplace Access InfoCenter provides fast, centralized access to information to help you install and configure WebSphere Everyplace Access. It comes bundled with WebSphere Everyplace Access, and after installation it can be accessed by selecting **Start** → **Programs** → **IBM WebSphere** → **Everyplace Access** → **Start InfoCenter**.

Alternatively, it can be accessed at:

`http://publib.boulder.ibm.com/infocenter/weahelp/index.jsp`

The WebSphere Everyplace Access support site is a great place to find information about:

- Bug fixes and updates to software
- Updates to documentation
- Hints and tips
- Solutions to specific problems

The support site can be accessed at:

`http://www-306.ibm.com/software/pervasive/ws_everyplace_access/support/`

The internal Hint and Tips page can be accessed at:

`https://ldbdcf1.lotus.com/software/support.nsf/site/websphere+everyplace+access`

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1.7 Bulk loading users from existing mail environments

This new feature is comprised of a single portlet that is accessible through the administrative interface for the portal.

This portlet lets the Everyplace Synchronization Server administrators import multiple new users from Lotus Domino into WebSphere Portal, create and assign them a default device profile, and then notify each user of their new username and password by e-mail. Administrators can also create and assign a default device profile to groups of existing users.

Note: The procedure described below works only in a WEA Component installation environment. Instead, with a Basic installation, the “Choose from a list of portal user” portlet could be not available, and therefore the bulk load could not work properly.

1.7.1 Configure the Bulk Load portlet

First of all, is necessary to add the user to the essusers or essadmin group. In this case we are creating a group named domusers. We will add the user to this group:

1. Log in to the portal with the portal administration ID. Click the **Administration** link at the top of the portal.
2. Click the **Access** link on the left.
3. Under the Access label, click **Users and Groups**.
4. Click **all portal user groups**.

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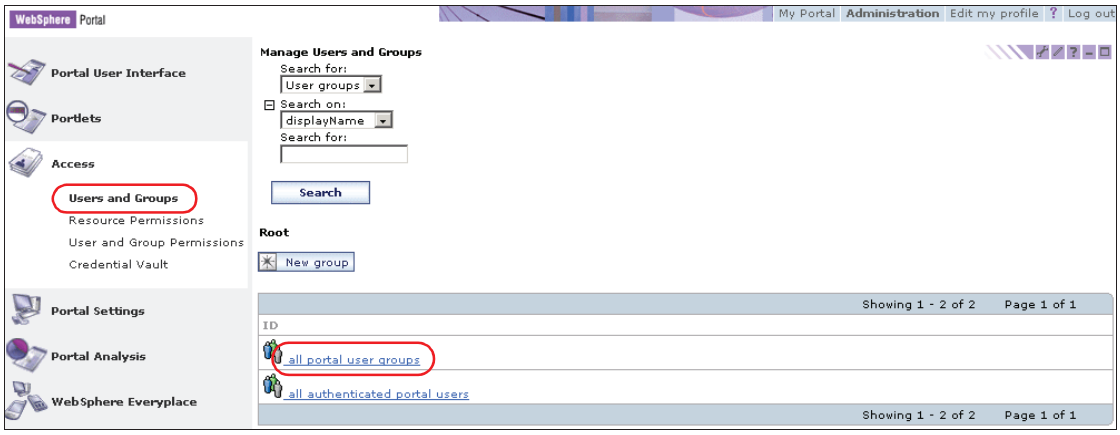


Figure 1-138 Users and Group

5. Click **essusers**.

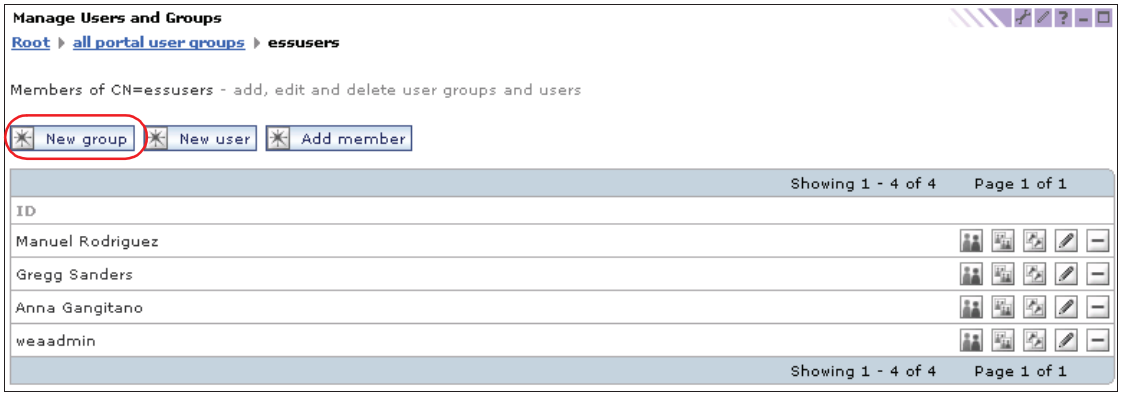


Figure 1-139 Manage Users and Groups

6. Click **New group** to create a group called domusers.

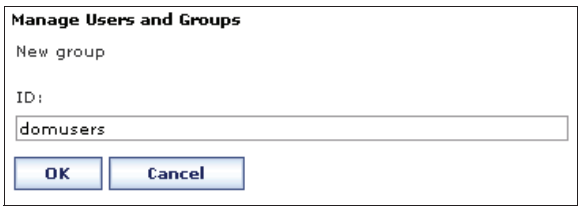


Figure 1-140 Manage Users and Groups - Creating a new group

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7. Make sure group creation was successful.

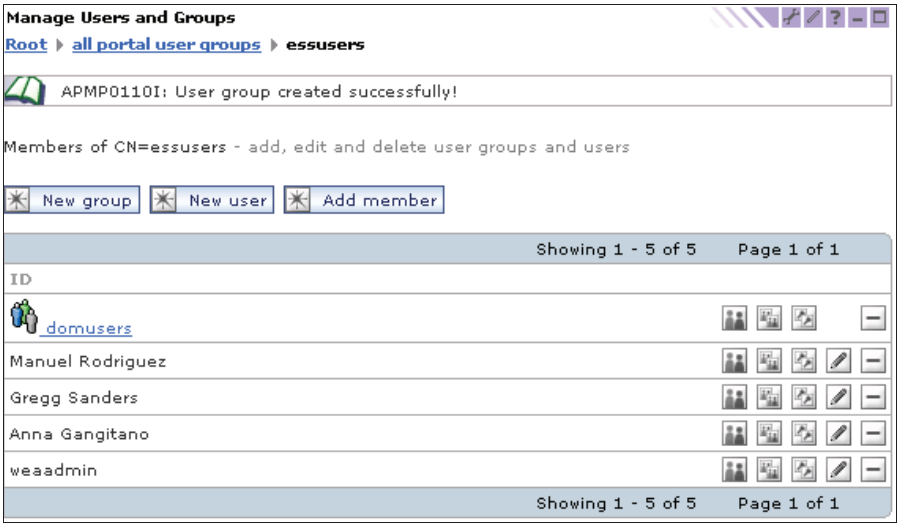


Figure 1-141 Manage Users and Groups

8. After the group is created, click **WebSphere Everyplace** on the left hand side.
9. Under the Everyplace Synchronization Server Administration label, click the **Bulk Load** portlet. You will see a message within the Bulk Load portlet indicating that it needs to be configured. Click the configure icon in the portlet title bar. You will see the following configuration interface.

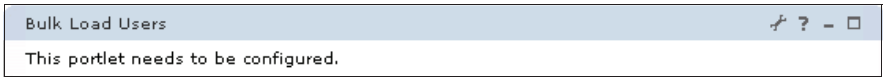


Figure 1-142 Bulk Load Users portlet

10. Fill in the appropriate values.

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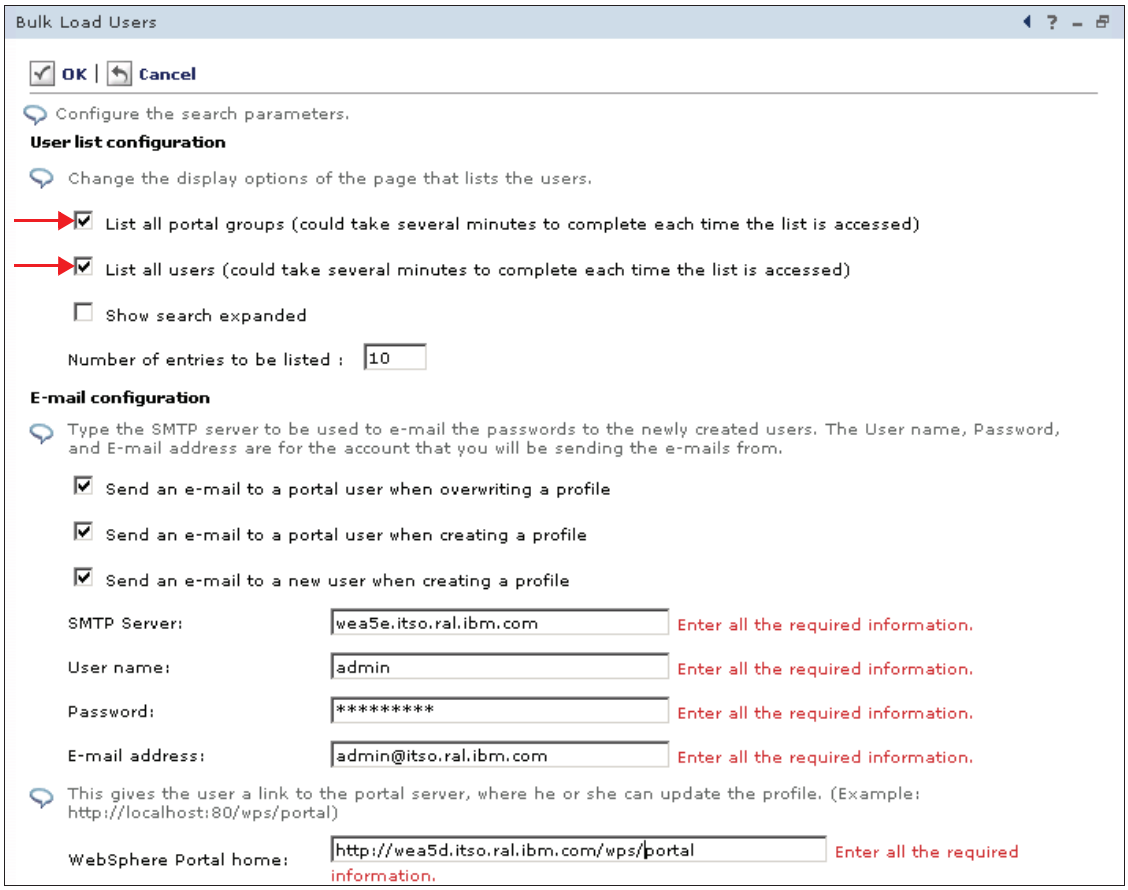


Figure 1-143 Bulk Load Users portlet

11. Make sure to select the **List all portal groups** and **List all users** at the beginning of the page. Also, make sure to enter a valid SMTP e-mail server and the admin account information in order to notify users when changes to their profile take place.

> **Note:** The SMTP server task is needed. Check on the Domino Server that this task is started. If not, check on the Basic tab of the server (wea5e.itso.ral.ibm.com in this example) that the SMTP listener task is enabled. Then, under Server Tasks, click **Start** and select SMTP server.

12. Click **OK** to save your bulk load configuration.

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13. The Bulk Load Users portlet will then display two options:
    - “Create users from file” is used to create new WEA users and associate a sync profile with them.
    - “Choose from a list of portal users” is used to reconfigure the sync profile settings for individual or groups of users.

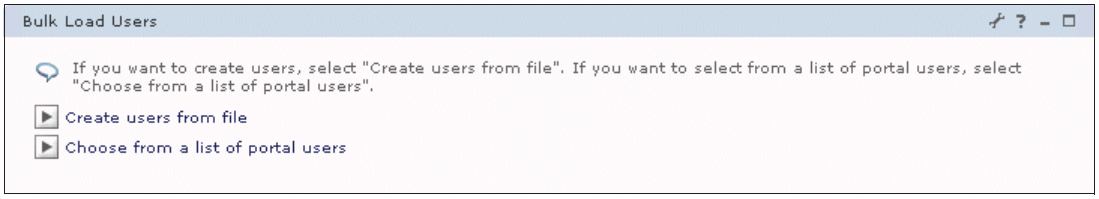


Figure 1-144 Bulk Load Users

14. Leave the browser open while you change the e-mail message that gets sent to every user after their profile gets created by the bulk loading process.

1.7.2 Customize e-mail notifications

In this section we describe the locations and contents of the e-mail notifications that can be customized and sent to WEA portal users.

The txt files that are used by the Bulk Load portlet to compose the e-mail that is sent to the new users are contained within the <portalhome>\installedApps\ ESSAdmin_PA_1_0_9D.ear\ESSAdmin.war\WEB-INF\ESSAdmin\email\en directory, where portalhome is the directory to which the Portal component was installed to (default is c:\program files\WebSphere\PortalServer). Alternate languages can be found in the appropriate language directories under <portalhome>\ installedApps\ESSAdmin_PA_1_0_9D.ear\ESSAdmin.war\WEB-INF\ESSAdmin \ email.

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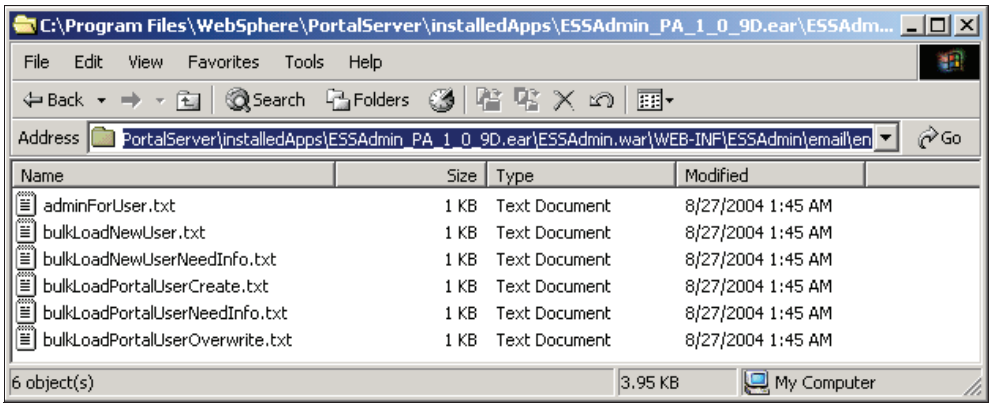


Figure 1-145 Txt files directory

15. The text files that are available include:
    - adminForUser.txt - Informs existing users that their user-defined device profile has been modified by the administrator (Synchronization Administrator for Users portlet).
    - bulkLoadNewUser.txt - Informs new users that the administrator has created their device profile (Bulk Load portlet).
    - bulkLoadNewUserNeedInfo.txt - Informs new users that the administrator has created their device profile and they need to finish configuring the profile before they synchronize their device (Bulk Load portlet).
    - bulkLoadPortalUserCreate.txt - Informs existing users that the administrator has created their device profile (Bulk Load portlet).
    - bulkLoadPortalUserNeedInfo.txt - Informs existing users that the administrator has created their device profile and they need to finish configuring the profile before they synchronize their device (Bulk Load portlet).
    - bulkLoadPortalUserOverwrite.txt - Informs existing users that the administrator has overwritten their existing device profile with a new device profile (Bulk Load portlet).
16. Open the file bulkLoadPortalUserNeedInfo.txt that has not yet been modified.
17. Change the subject section by adding the word `Important!`

```
<subject>Important! Device profile created, need you to update backend
information</subject>
```

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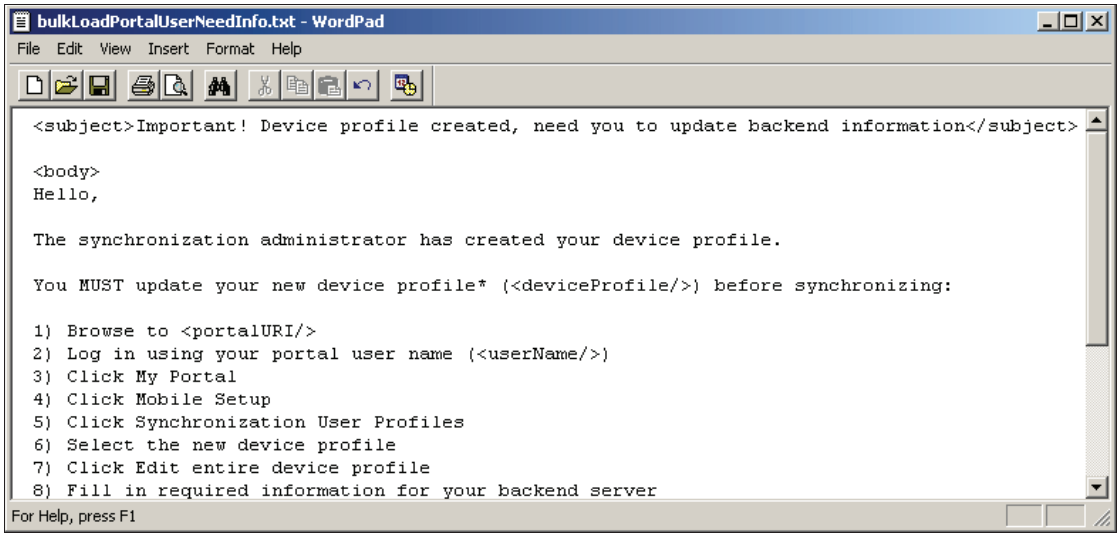


Figure 1-146 bulkloadnewuserneedinfo.txt file

18. Save the file and continue with the bulk loading process. Each user will receive an e-mail when their profile gets created, which will have the updated subject. You can read the e-mail of one of the users at the end of the lab to verify this.

1.7.3 Using the Bulk Load portlet

This final step will process each user, creating a profile that will allow them to synchronize.

1. From the Administration interface in the portal, select **Choose users from a list of portal users**.

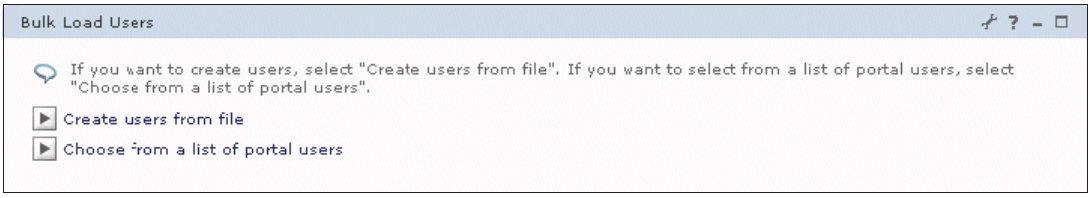


Figure 1-147 Bulk Load Users

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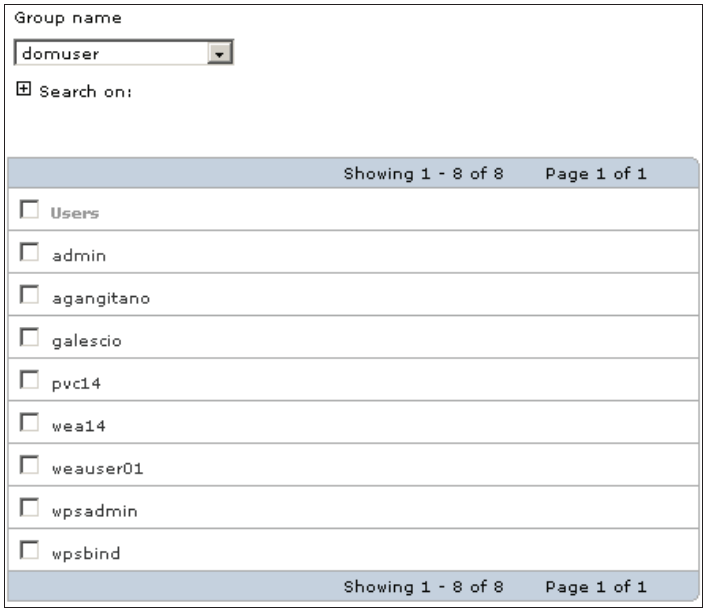


Figure 1-148 Bulk Load Users

2. Select the domusers group and click **Next**.

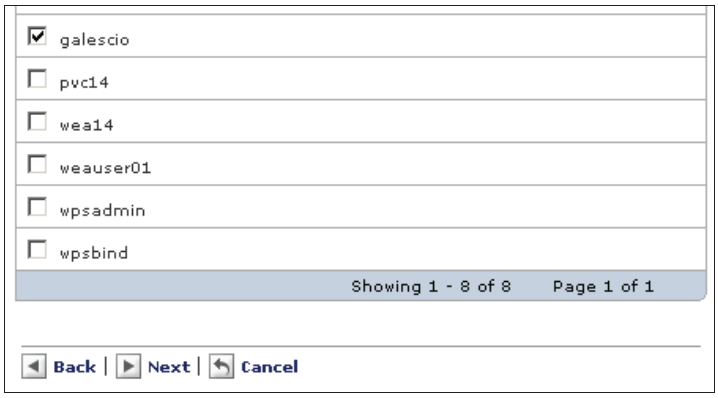


Figure 1-149 Bulk Load Users

3. You will be prompted to select a server to which the user will synchronize data. Select the server and click **Next**.

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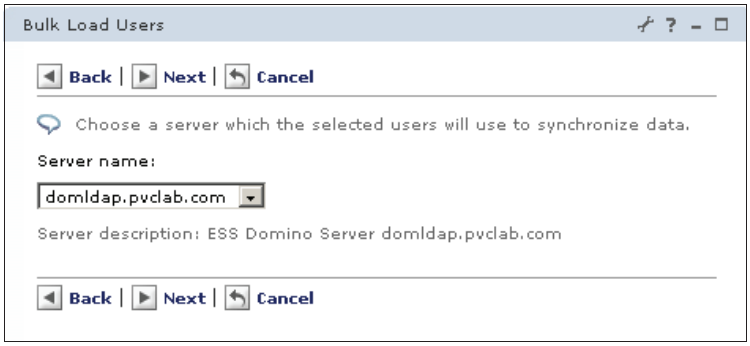


Figure 1-150 Bulk Load Users - Choosing server name

4. You will be prompted to select the Sync Profile that you want to associate these new users with. If you do not yet have one, you can create one from here. Click **Create profile** and type in a profile name that you want to be associated with these new users.

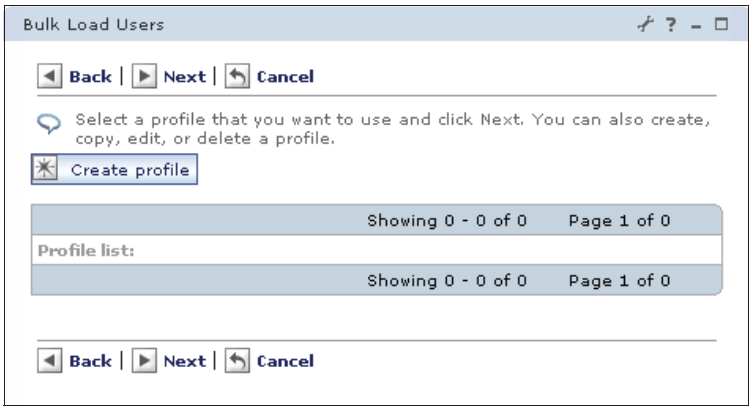


Figure 1-151 Bulk Load Users - Create new synchronization profile

5. Type in a name for your new profile and click **Next**.

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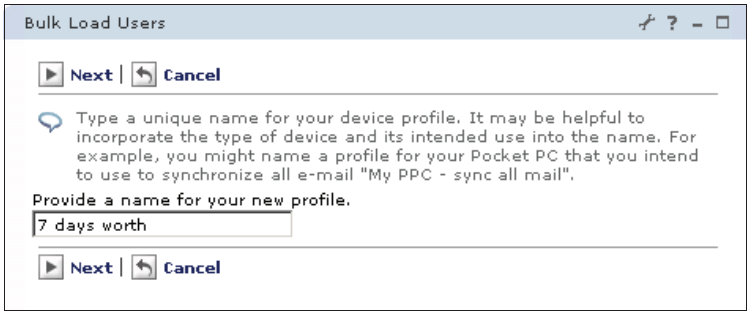


Figure 1-152 Bulk Load Users - Providing a name for the new profile

6. Select an existing profile to associate with or select **Create custom settings for 'yourprofilename'**, where your profilename is the name you typed in during the previous step. Click **Next**.

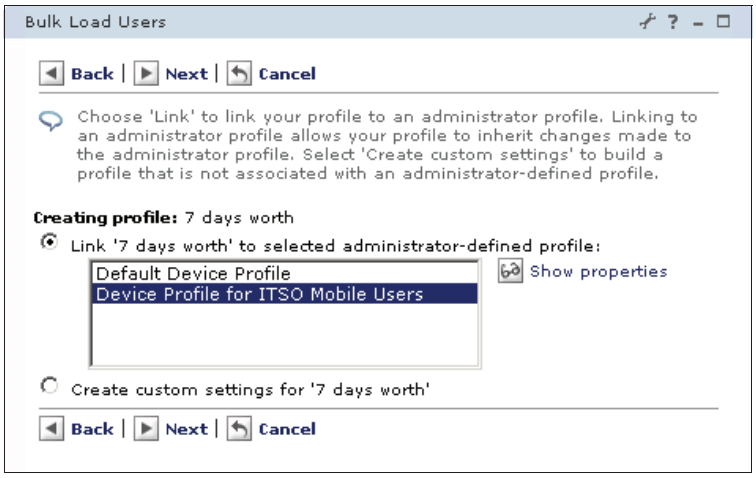


Figure 1-153 Bulk Load Users - Creating profiles

7. You will see a confirmation of the synchronization settings that you selected for your profile. Click **Next**.

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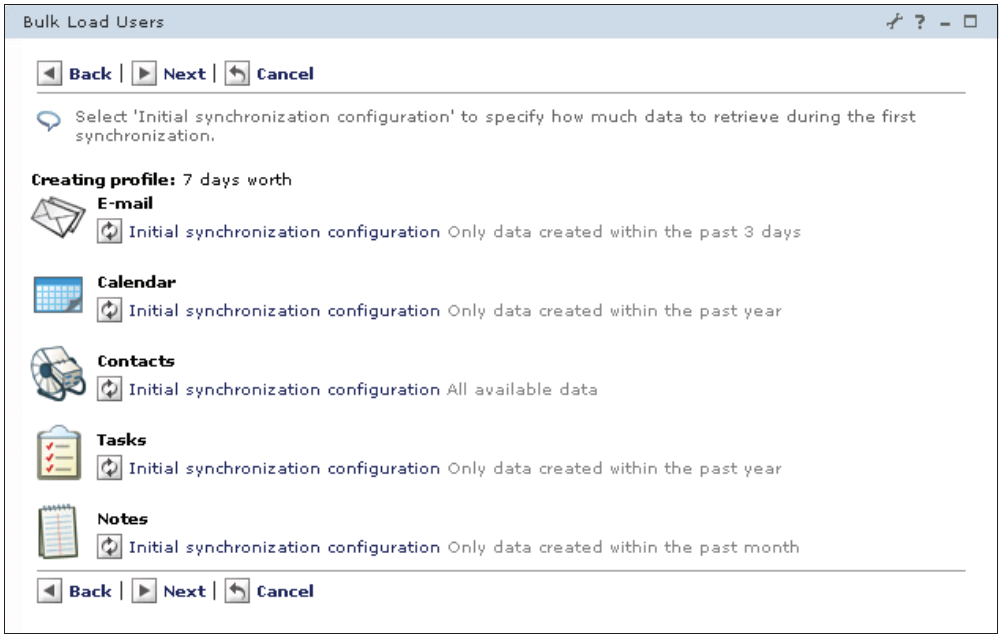


Figure 1-154 Bulk Load Users

8. You will be asked to select the privacy settings for this set of users. Make any changes necessary, then select **Next**.

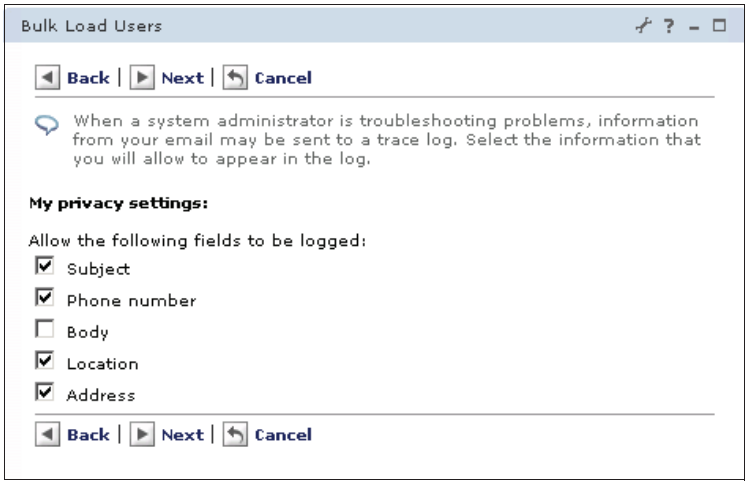


Figure 1-155 Bulk Load Users - Privacy settings

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9. Select the time zone settings for these users. Initially, you need to select a time zone from the drop-down selection box, and then click **Get locales for this timezone** to populate the second local selection list. Once you have selected the correct time zone and locale for this group of users, click **Next**.

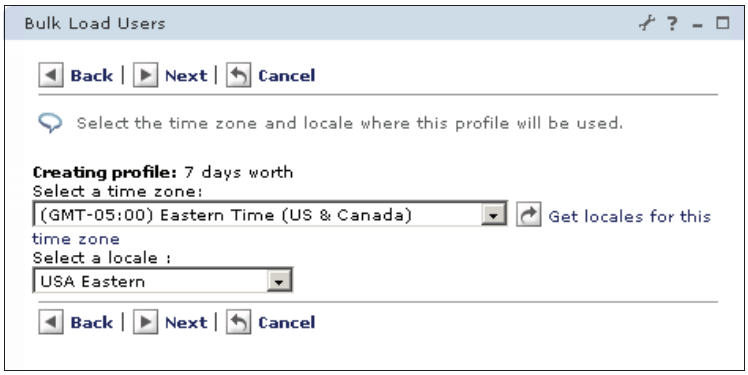


Figure 1-156 Bulk Load Users - Selecting time zone

10. You will, once again, see the profile settings that you selected. Assuming they are correct, click **OK**.

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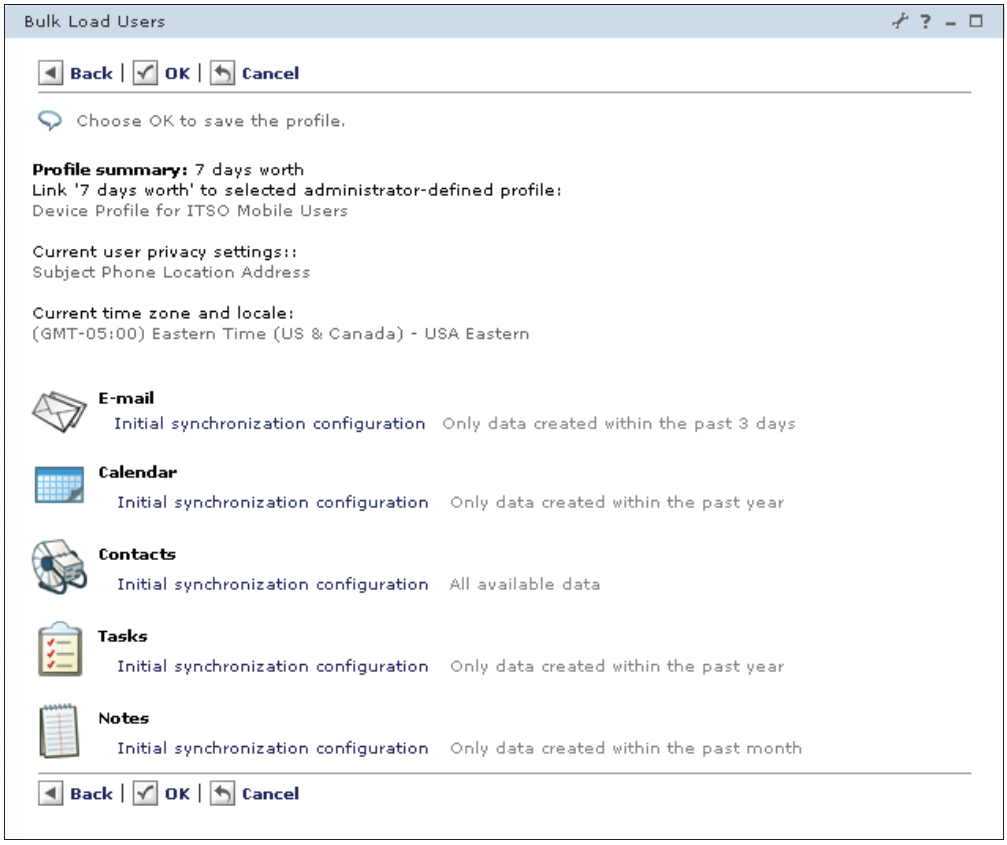


Figure 1-157 Bulk Load Users - Profile settings summary

11. You will see your new profile available. Click **Next**.

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Figure 1-158 Bulk Load Users - Profile list

12. With your profile selected, click **Next** on the Select a profile screen.
13. You will see a summary of the users and the profile you are associating with those users next.

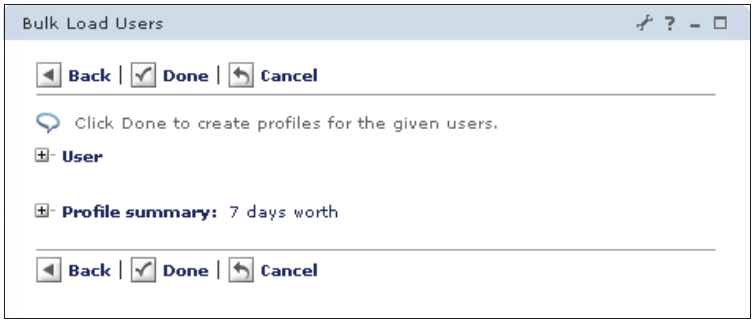


Figure 1-159 Bulk Load Users - Summary

14. Both the Users and the Profile Summary sections can be expanded out to show all of the values within them. To illustrate this, click the plus symbol (+) next to Users. You will see a result similar to the image below. Clicking the minus symbol (-) will contract the list.

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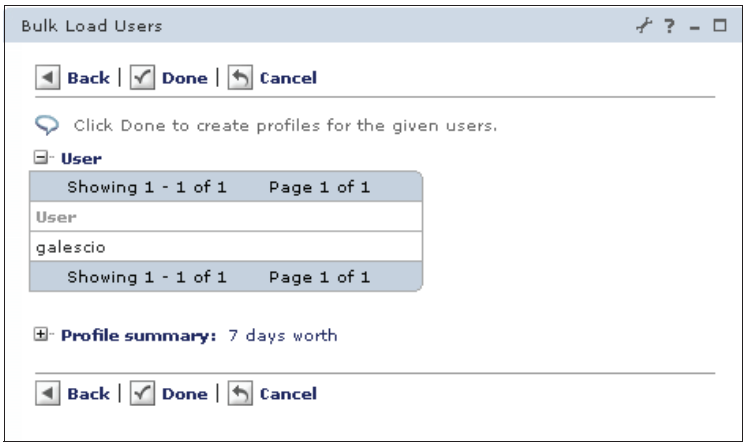


Figure 1-160 Bulk Load Users - Summary

15. You can also expand the Profile section and then contract it.
16. If you are satisfied with your users and profile selections, click **Done**.

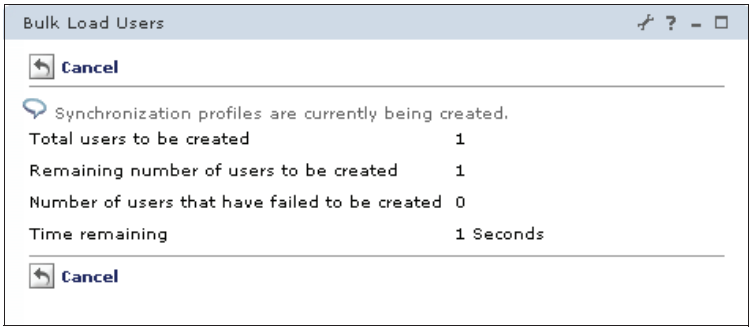


Figure 1-161 Bulk Load Users - Profiles creation

17. Wait for the completion of the portlet. You will automatically return at the main Bulk Load Users page.
18. To verify, open the user's mail files. You should see the e-mail that was automatically generated for him.

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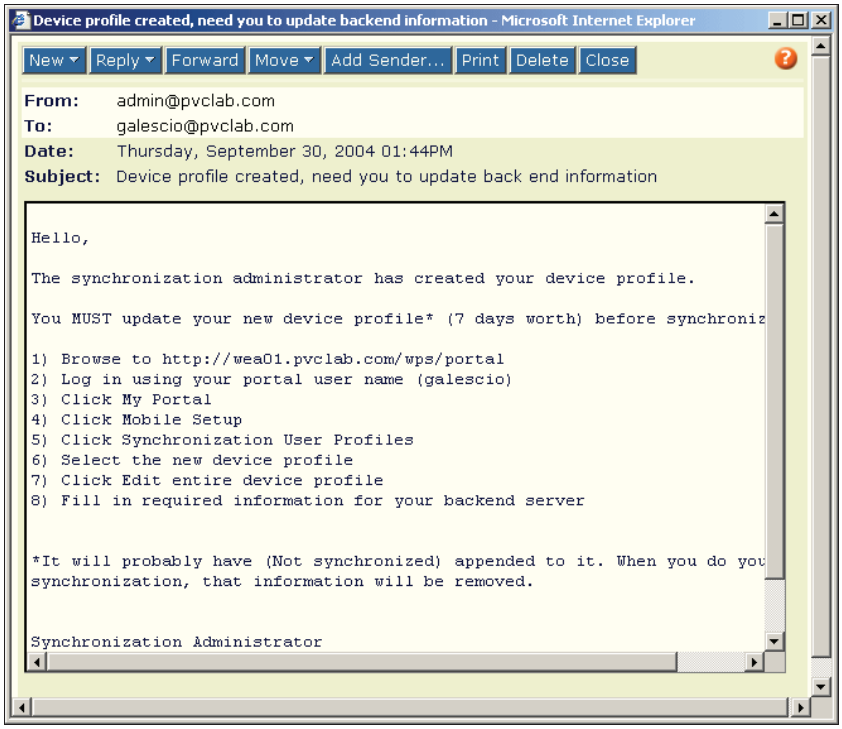


Figure 1-162 E-mail notification of the new device profile created

19. You will also be able to log in to the Portal and see your new profile, selecting **Mobile Setup** → **Synchronization User Profiles**.

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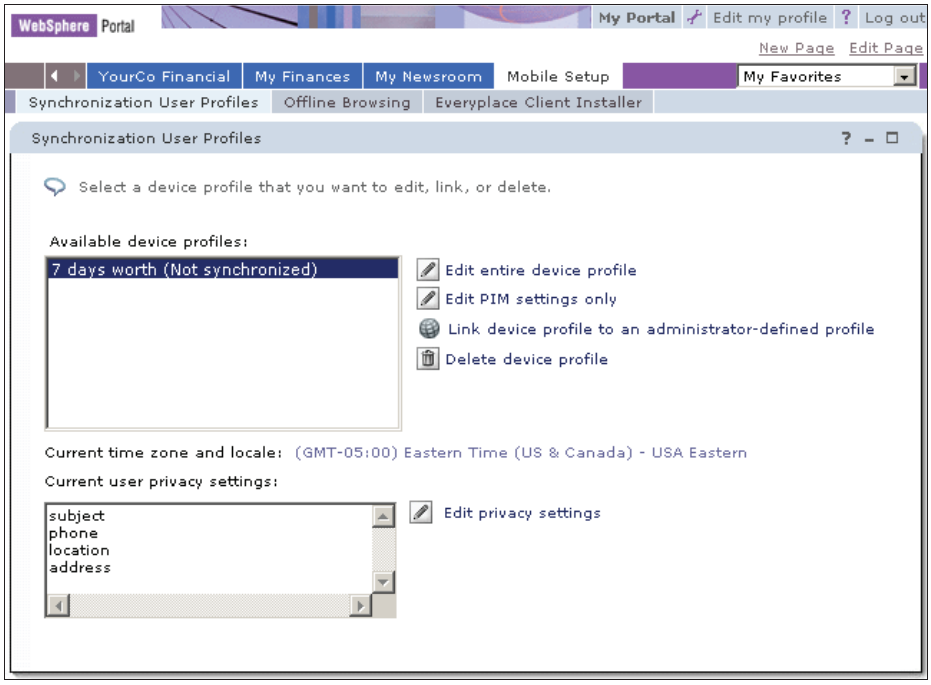


Figure 1-163 User portal - Synchronization User Profiles

20. Note that the synchronization profile name has the message (`Not synchronized`) appended to it. After the first synchronization this information will be removed. Before using that profile, you must update the device profile with the backend information. Select **Edit entire device profile**.

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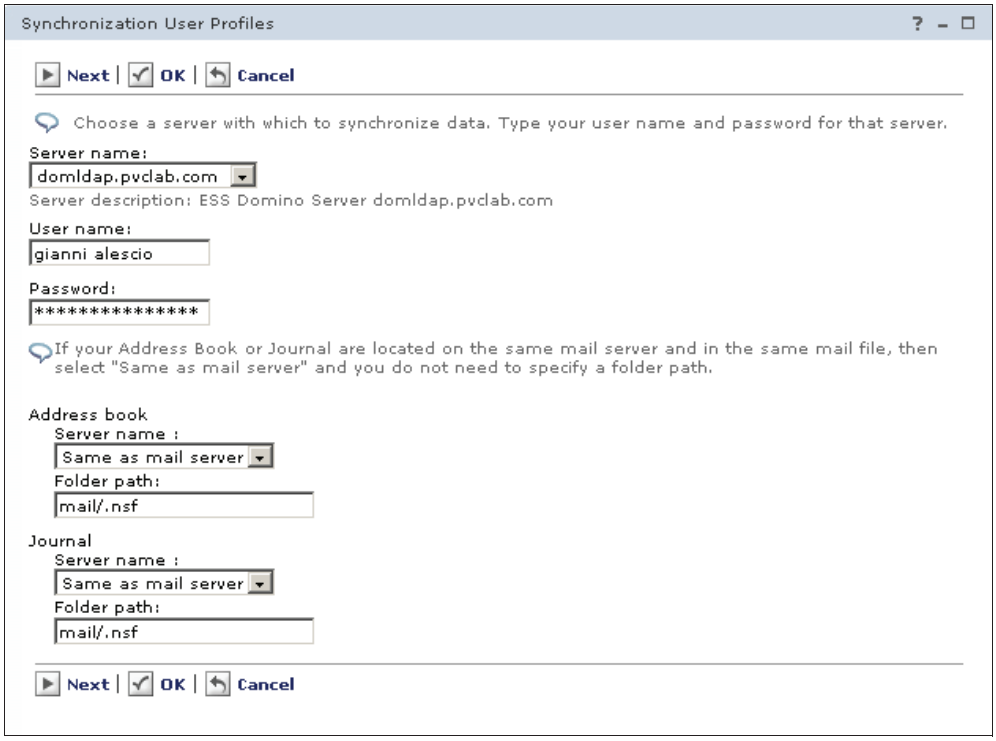


Figure 1-164 Updating device profile

21. Fill in the User name and Password fields with the missing information. For the Address book and Journal section, you can choose **Same as mail server**. Select **OK**.

> **Note:** Figure 1-164 could appear differently for different environments.

Notice that after performing these steps, the user is not yet ready to synchronize the data with a mobile device. For example, the ESSadmin is not automatically added to the ACL of the user's mail box.

1.7.4 Other functionality

The Bulk Load portlet also allows you to create new users from a file. To perform this scenario you need to:

1. Import data from the Domino server into a file.
2. Use the Create user from file option in the Bulk Load portlet.

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There is more information needed to use this function that is not mentioned in this chapter. For details see *IBM WebSphere Everyplace Access V5 Handbook for Developers and Administrators Volume I: Installation and Administration*, SG24-6462.

Exporting users from Domino server

Now you will export a user list from Domino in the correct format for the Bulk Load portlet to read.

1. Open the people view in the Domino Administrator.

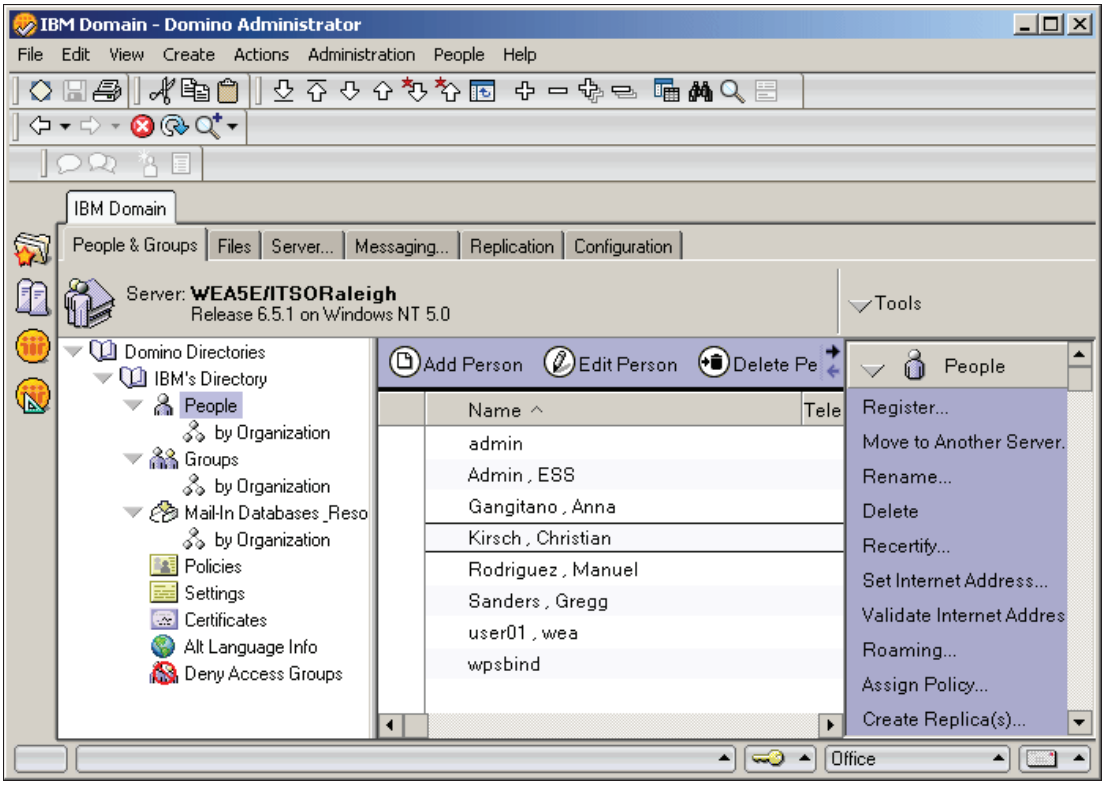


Figure 1-165 IBM Domain - People directory

2. Select the users that you want to export (no need to select any if you plan to export all users), then select **File**, **Export** from the client menus.
3. You will be prompted for a filename and the location to save the export file to. It is important that the file type is Structured Text. See below.

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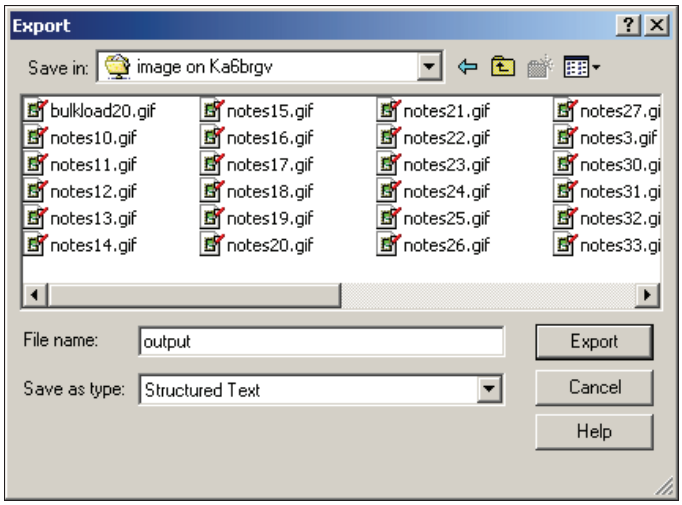


Figure 1-166 Export prompt

4. Next, you will be prompted to specify the characteristics of the export file; choose **Selected Document** if you only want to export a subset of the directory or **All Documents** if you want to export all of your users. Leave the other settings at their default values.

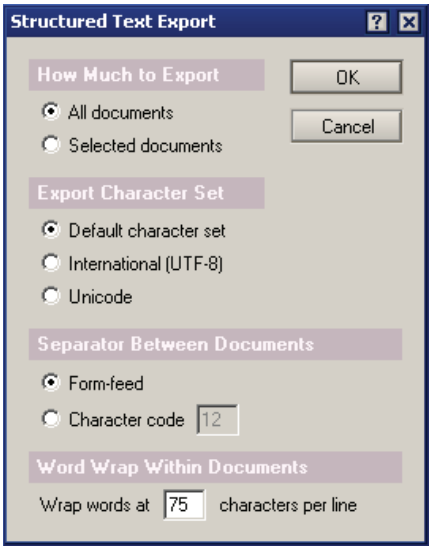


Figure 1-167 Structured Text Export

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5. The output file will look similar to this when viewed from WordPad or Notepad.

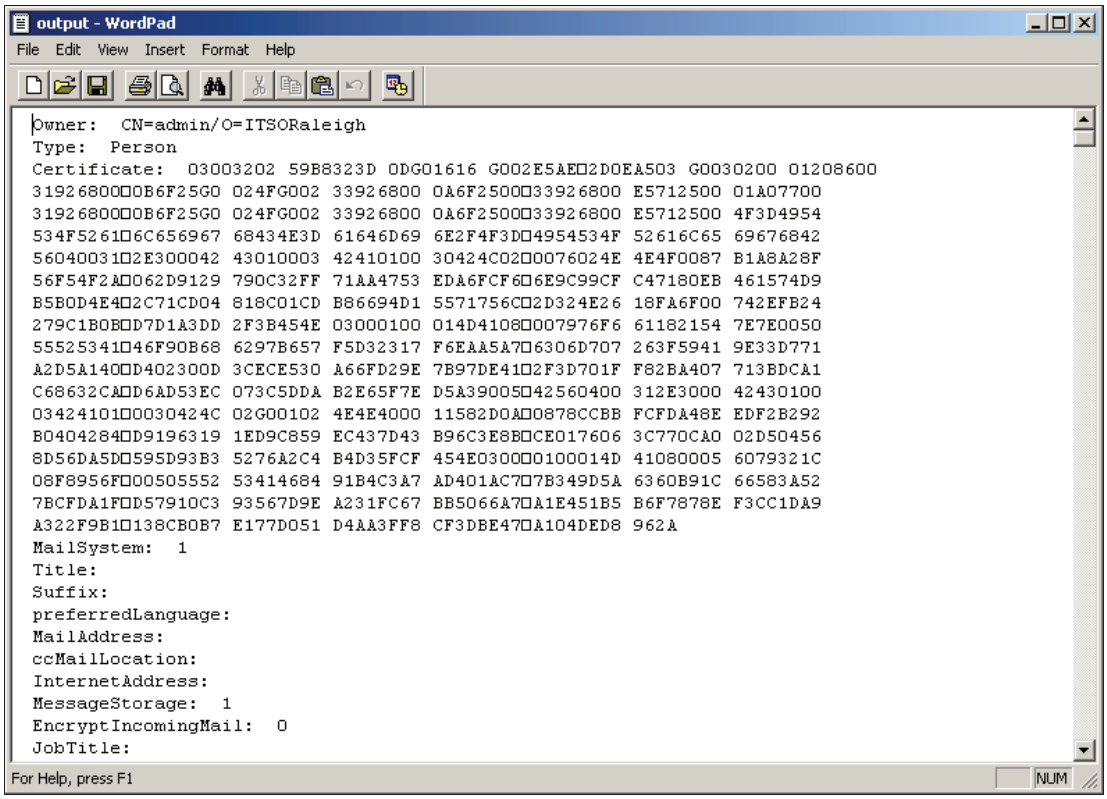


Figure 1-168 Sample output file

Note: The structured text output format includes every field from the person document. This explains why the output is so large for each user.

6. Transfer your exported file to the machine that you can use to administer the WEA server.

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Exporting users from Exchange 2000 server

In this section export a user list from the Exchange in the correct format for the Bulk Load portlet to read.

1. On the Microsoft Exchange 2000 server, open a DOS window and run the following command:

   ```
   csvde -f filename.csv -l "objectClass, mailNickName, mail,
   givenName, sn"
   ```

   Where *filename.csv* is the name of the file you want to export the list to. The output file will be exported to the directory that the command is run from.

2. You will see the following on the command line (Figure 1-169).

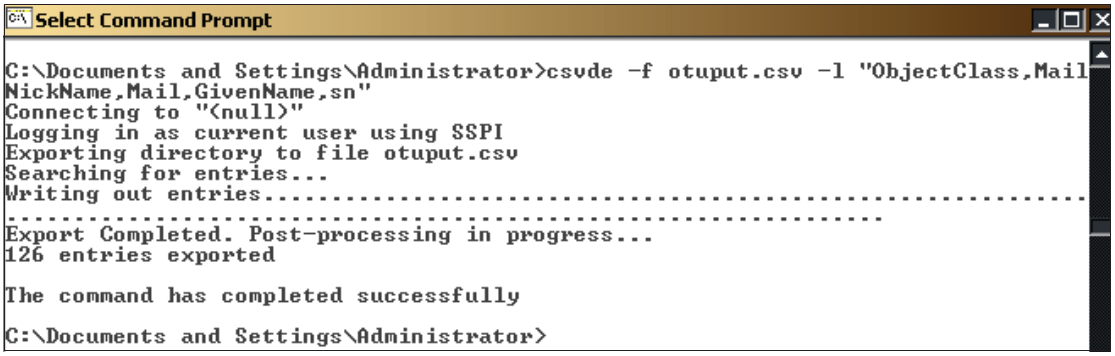


Figure 1-169 Exporting the Exchange 2000 users to a file

3. Running this command creates a log file in the same directory the command was run from. It logs the behavior of the command.

Using the Create users from file

To use this:

1. Select the **Bulk Load** link.

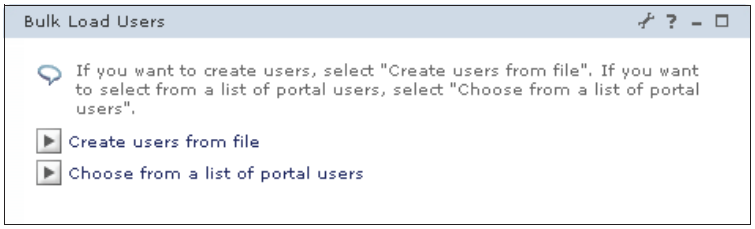


Figure 1-170 Bulk Load main page

2. From the main Bulk Load Users page, click **Create users from file**.

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3. Browse to the users output file previously exported from the domino server. Once the Filename field contains your export file, click **Next**.

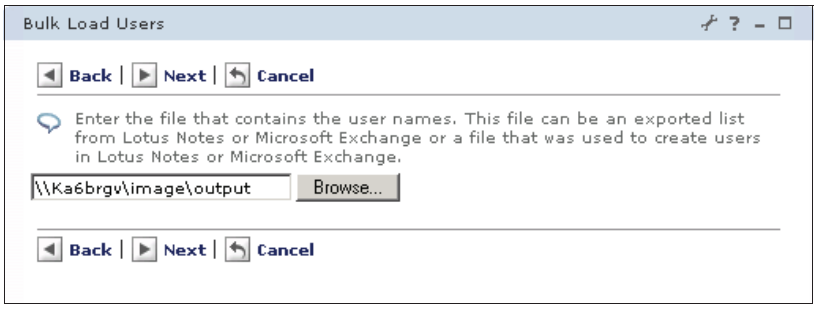


Figure 1-171 Bulk Load Users

4. If the portlet was able to successfully parse the import file, you will be presented with an interface to allow you to select which users should be imported.
5. Note that if any required fields are missing, the portlet will display warnings for each affected user, and you will have the opportunity to edit the user profile and provide the missing information.

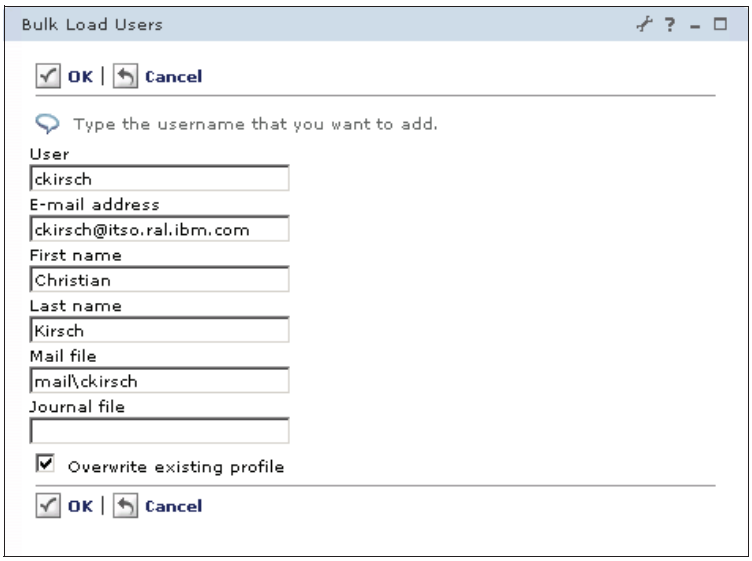


Figure 1-172 Editing user information

6. Then you could see an `OK` near the user name.

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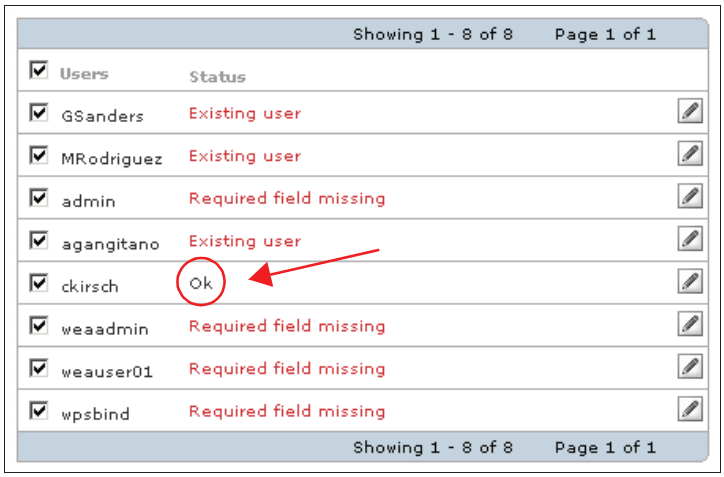


Figure 1-173 Bulk Load Users

7. Follow the same steps as for the “Choose from a list of portal users” portlet to create a profile. At the end you should see a list of added users.

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2

Exchange 2000 and 2003 synchronization

This chapter discusses the use of the Everyplace Synchronization Server (ESS) to synchronize Personal Information Management (PIM) data with Microsoft Exchange Server.

WebSphere Everyplace Access provides PIM and e-mail synchronization with Microsoft Exchange 2000, Microsoft Exchange 2003, and Microsoft Exchange V5.5 servers. However, this chapter only discusses the Microsoft Exchange 2000 and 2003 servers.

Topics covered in this chapter include:

- Overview
- How it works
- Configuration
- Usage
- Hints and tips

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2.1 Overview

Everyplace Synchronization Server is a scalable solution for synchronizing personal information management (PIM) data between mobile devices and Microsoft Exchange 5.5 and Microsoft Exchange 2000 or 2003 servers.

There are two adapters provided, one each for synchronizing with each kind of PIM server. Each PIM adapter can synchronize many backend PIM servers in the same domain.

The Synchronization Server leverages the proven technology of TrueSync. TrueSync is an embedded synchronization engine on which IBM has built a flexible adapter framework to provide synchronization with various servers, regardless of the platform or format of the data.

To support multiple platforms, Synchronization Server uses the Java 2 platform (J2EE) and the SyncML 1.1.1 protocols between Synchronization Server and mobile devices. Mobile devices can establish either a wireless or wired connection to synchronize data over the Internet, a Wireless network, an intranet, a local area network (LAN), or a wide area network (WAN) using TCP/IP.

2.2 How it works

Two PIM adapters are provided: The Microsoft Exchange 2000 or 2003 Adapter, and the Microsoft Exchange 5.5 Adapter.

The Microsoft Exchange 2000 or 2003 Adapter provides an interface for Synchronization Server to access Microsoft 2000 and 2003 Exchange servers. The Microsoft Exchange 2000 or 2003 Adapter supports the E-mail, Tasks, Notes, Calendar, and Contacts data types. The Microsoft Exchange 2000 or 2003 Adapter is supported on the Windows and AIX® platforms.

The Microsoft Exchange 5.5 Adapter provides an interface for Synchronization Server to access Microsoft 5.5 Exchange servers. The Microsoft Exchange 5.5 Adapter supports the E-mail, Tasks, Notes, Calendar, and Contacts data types. The Microsoft Exchange 5.5 Adapter is supported only on Windows platforms (not discussed in this book).

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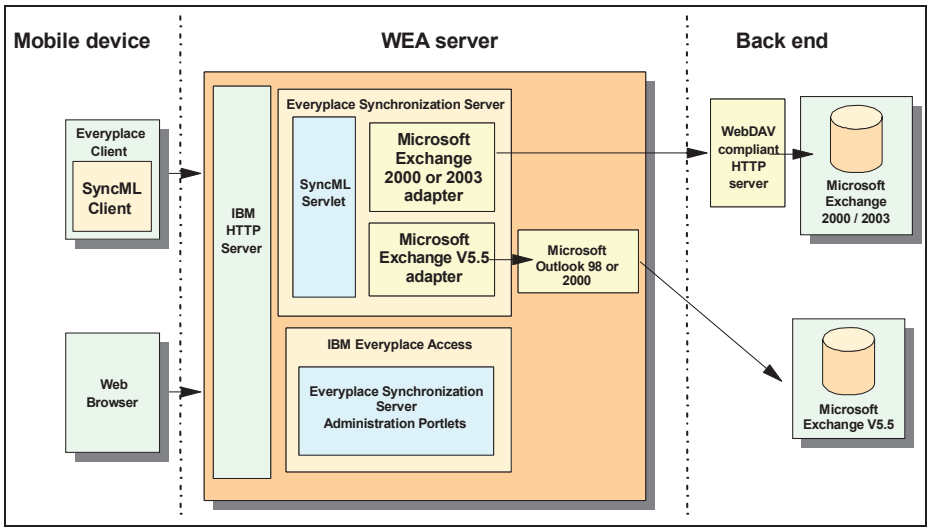


Figure 2-1 ESS architecture diagram

Synchronization Server provides several Web-based administration portlets. Two of these concern Microsoft Exchange system configuration.

- Microsoft Exchange 2000 or 2003 Adapter. This portlet lets the Synchronization Server administrator work with the Microsoft Exchange 2000 or 2003 Adapter. The administrator can use this portlet to monitor Microsoft Exchange 2000 and 2003 Servers.
- Microsoft Exchange 5.5 Adapter. This portlet lets the Synchronization Server administrator work with the Microsoft Exchange 5.5 Adapter. The administrator can use this portlet to configure authentication settings and monitor Microsoft Exchange 5.5 servers.
- Server Settings. This portlet lets Synchronization Server administrators limit the size of e-mail attachments that end users can synchronize to mobile devices.

In this chapter we discuss issues related to Microsoft Exchange 2000 or 2003 Adapter.

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2.3 Configuration

Configuring the Everyplace Synchronization Server for synchronization with Microsoft Exchange 2000 or 2003 servers involves the following:

- Creating Microsoft Exchange users (if they do not already exist)
- Managing Everyplace Synchronization Server to check the status of the servers and optionally configure logging
- Configuring the Exchange PIM/e-mail Adapter
- Creating a default synchronization setting for the user
- Configuring the user's preferences and linking the user to the default synchronization profile created in the previous step
- Setting up the Exchange portlets for online access to the Exchange server

Note: WebSphere Everyplace Access Version 5.0 Fix Pack 1 or later is required to synchronize with Microsoft Exchange 2003 server.

2.3.1 Create a Microsoft Exchange user

To explain how to synchronize Exchange data we need a set of Everyplace Access synchronization users with a Microsoft Exchange mailbox.

The following steps will create two mailbox-enabled users on the active directory in the Exchange server. These users should already exist in the Everyplace Access server and must belong to the essusers group.

Note that this is a brief explanation of how to create Microsoft Exchange users for purposes to show Exchange 2000 and 2003 synchronization. In a real environment, existing Microsoft Exchange users could be imported into Everyplace Access server using the Bulk Load portlet. Refer to *IBM WebSphere Everyplace Access V5 Handbook for Developers and Administrators Volume I: Installation and Administration*, SG24-6462, for more details about bulk loading users from existing mail environments.

On the Exchange server, do the following:

1. Open the Active Directory user management interface by selecting **Start** → **Programs** → **Microsoft Exchange** → **Active Directory Users and Computers**.
2. Right-click **Users** and select **New** → **User**.

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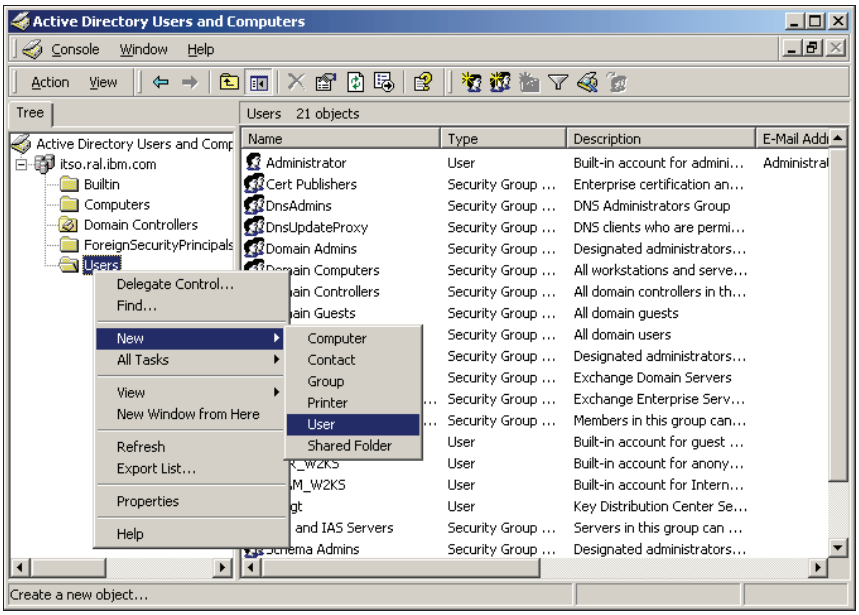


Figure 2-2 Active Directory Users and Computers

3. Type in the information of the new user.

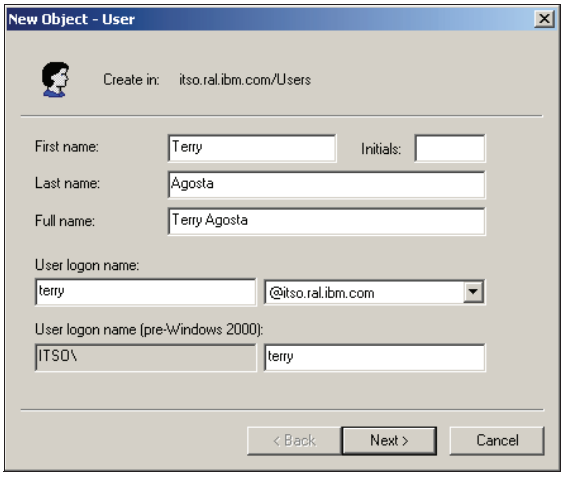


Figure 2-3 New Object User

4. Type in the password (twice), select **Password never expires**, and click **Next**.

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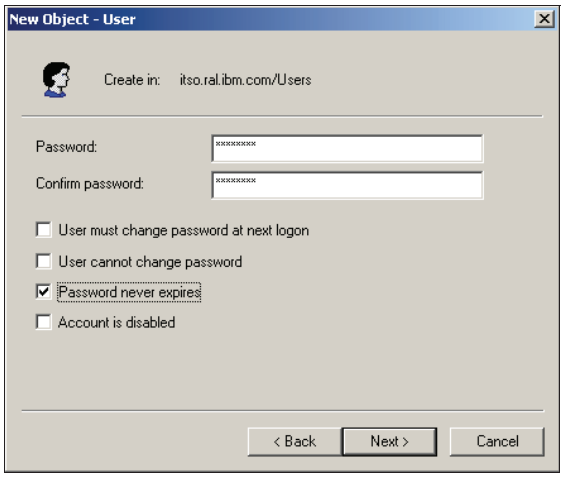


Figure 2-4 New Object User - Password

5. Create an Exchange mailbox for the user. Click **Next**.

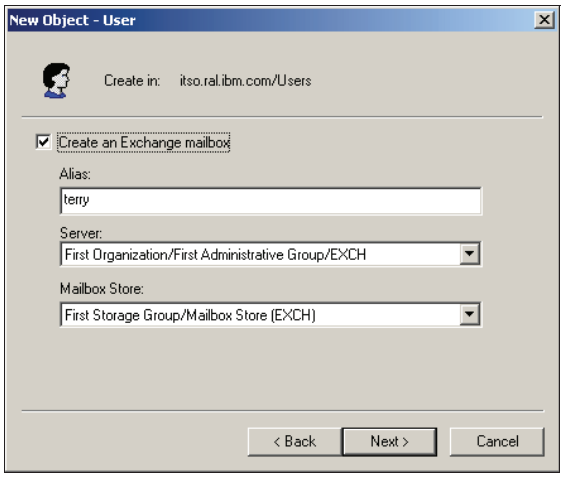


Figure 2-5 New Object User - Mailbox

6. Click **Finish** to create the new user.

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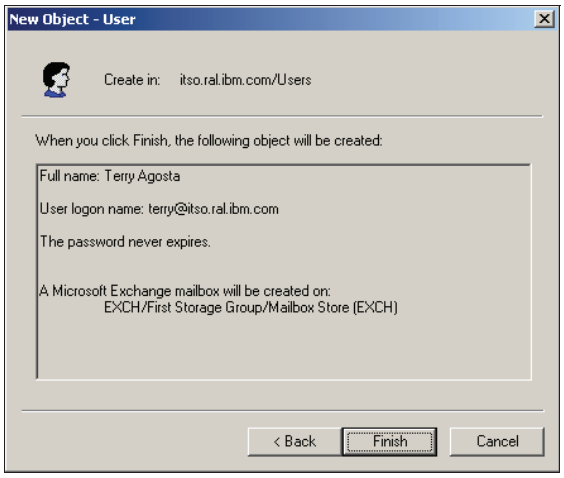


Figure 2-6 New Object User - Summary

7. Repeat steps 1 to 6 to create another Exchange user.

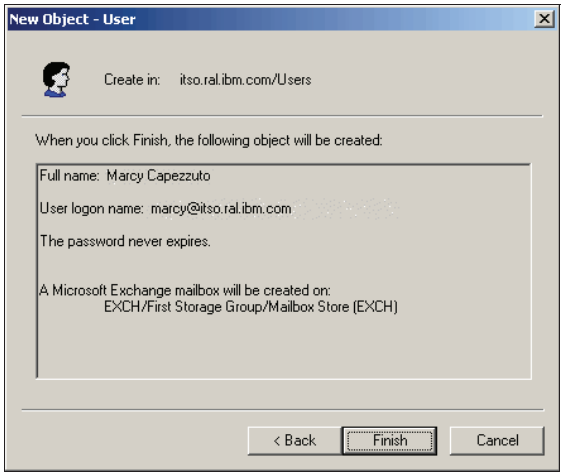


Figure 2-7 New Object User - Summary

2.3.2 Manage Everyplace Synchronization Server

The Everyplace Synchronization administrator can check the status of the related servers on the portal using the Manage Servers portlet. Administrators can also start/stop the servers.

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However, the first time you start the Synchronization server, you must start it from a command prompt or from the Windows Services console.

You can check the status of the WEA Services with the **serverStatus** command (go to the bin folder of the application server):

```
serverStatus -all -username wpsbind -password wpsbind
```



Figure 2-8 Server status

The following servers should be started:

- server1
- WebSphere Portal
- WEA_Server
- Everyplace_Synchronization

It is also possible to check that the Everyplace Synchronization Server has been started using the Everyplace Access portal:

1. Log in to the Everyplace Access portal as the administrator user.
2. Click **Administration** at the top right corner of the page. Click **WebSphere Everyplace** from the left-navigation and click **Everyplace Synchronization Server Administration**. You will see the portlet administration links.
3. Check that the Synchronization server and the backend Exchange server are running. Click **Manage Servers**. You will see that the ESS and Exchange servers are running. In Manage Servers, you can also start/stop the servers and see the active users that are performing synchronization.

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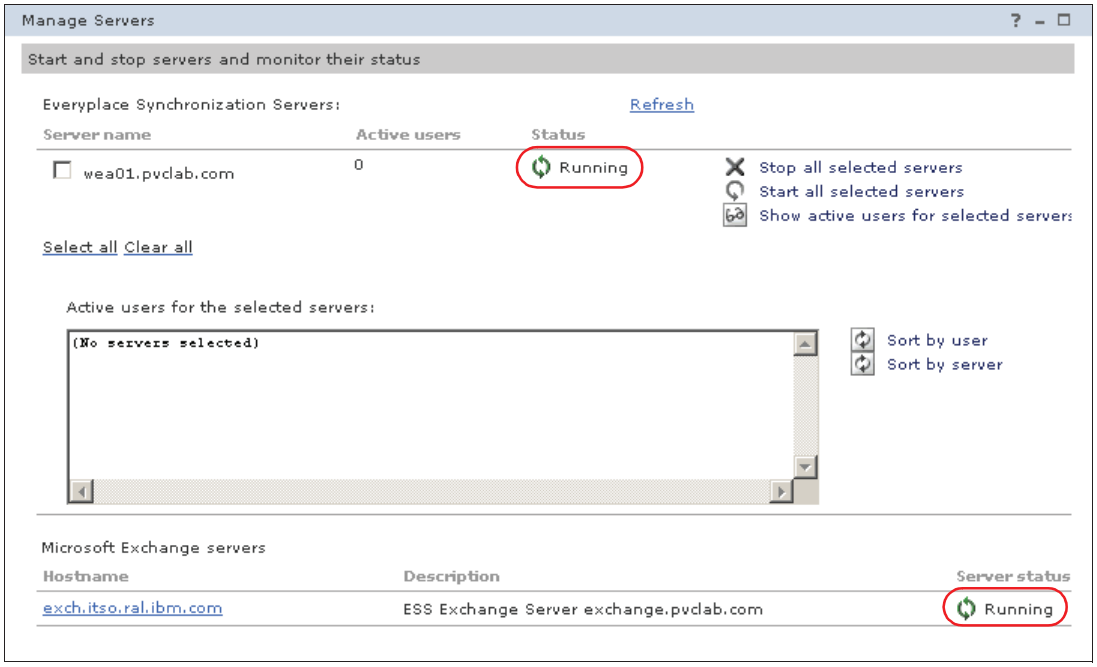


Figure 2-9 Manage servers

4. You can view and configure logging for user activities. Click **User Logging** from the left-navigation. You will see the Configure the Everyplace Synchronization User Logging Settings portlet.

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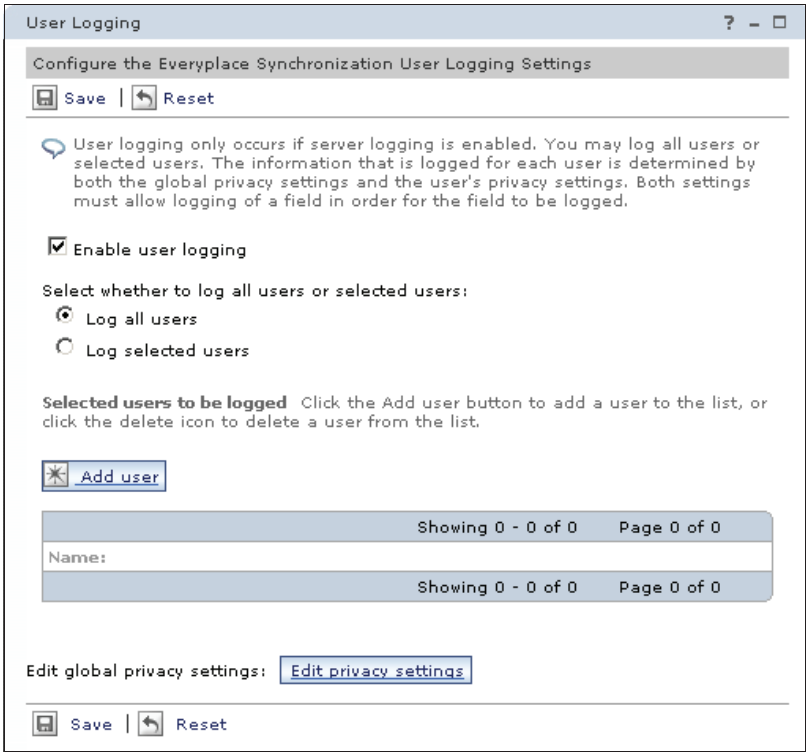


Figure 2-10 User logging

5. You can view and configure logging for the Synchronization Server. Click **Synchronization Server Logging** from the left-navigation. You will see the Configure the Everyplace Synchronization Server Logging Settings portlet.

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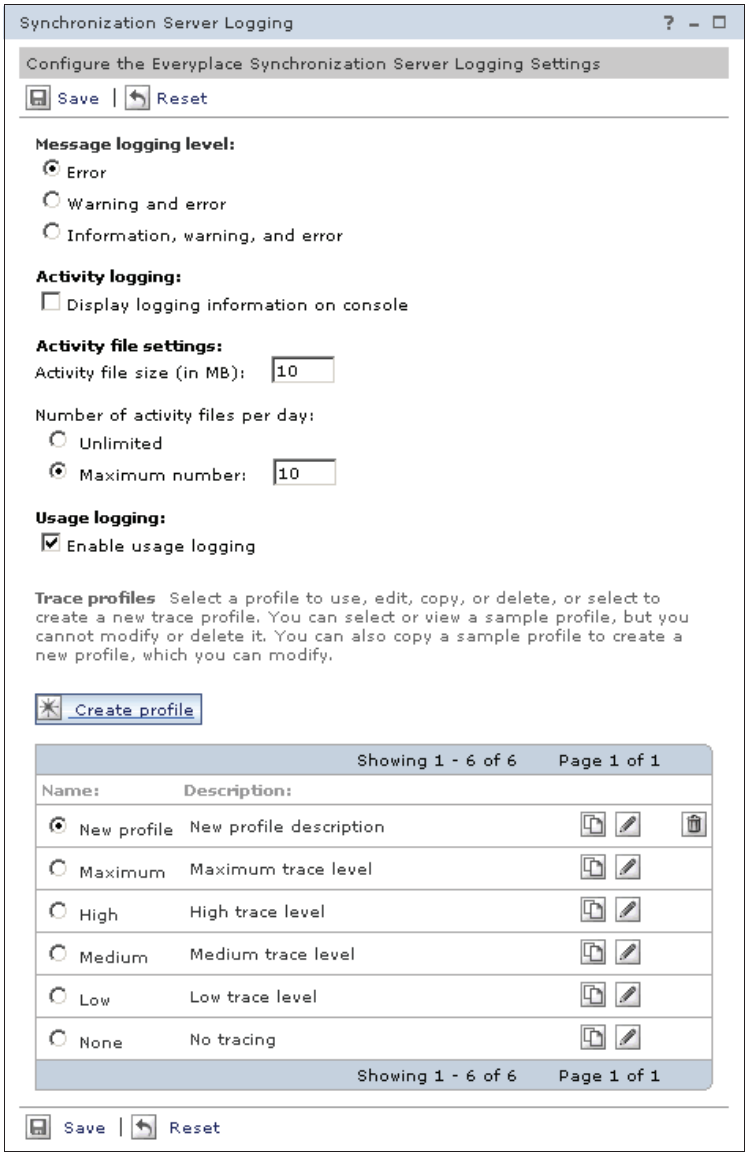


Figure 2-11 Synchronization Server Logging

6. You can also view and configure logging for administrative activities. Click **Administration Service Logging** from the left-navigation.

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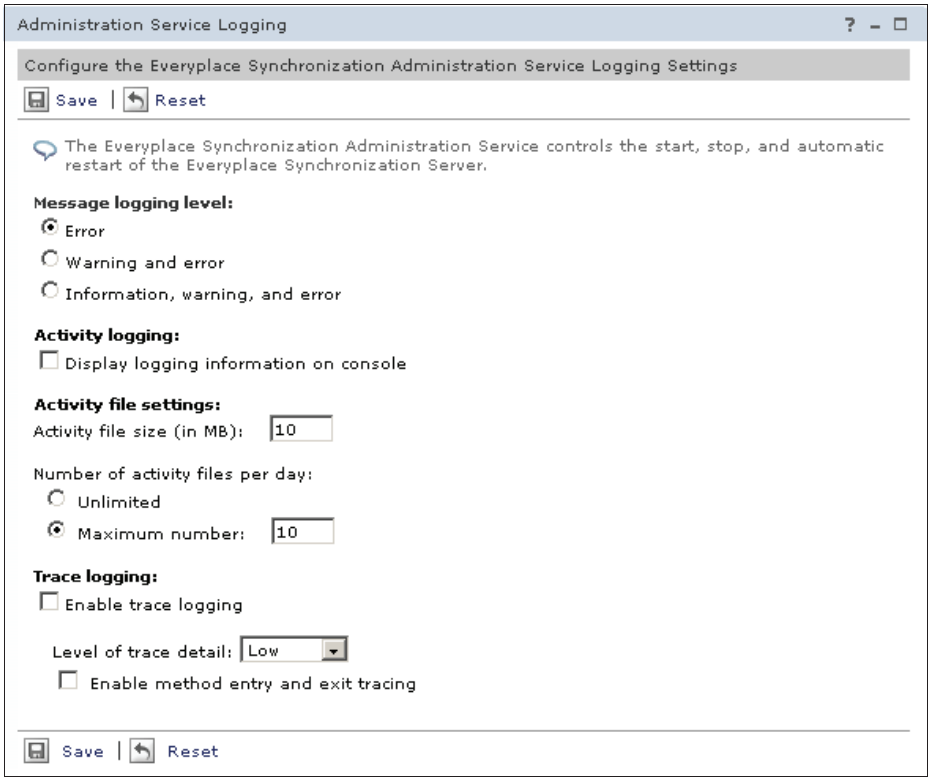


Figure 2-12 Administration Server Logging

2.3.3 Configuring the Exchange PIM and e-mail Adapter

During the WebSphere Everyplace Access Basic install option, you are prompted to add one Microsoft Exchange server. In a Component install option you have to include the Exchange server information in a properties file and run a command to configure the Synchronization Server. In both cases, after installation is complete, you can use the Microsoft Exchange 2000 or 2003 Adapter portlet to add more servers and to remove servers that you no longer want to use.

To add a Microsoft Exchange 2000 or 2003 server to the adapter, you need the server's hostname. The hostnames are case sensitive. Entering a shortname or IP address is not supported. For example:

1. To add an Exchange server click **Microsoft Exchange 2000 or 2003 Server Adapter** from the left-navigation into the **Administration** option. Click the **Add** button.

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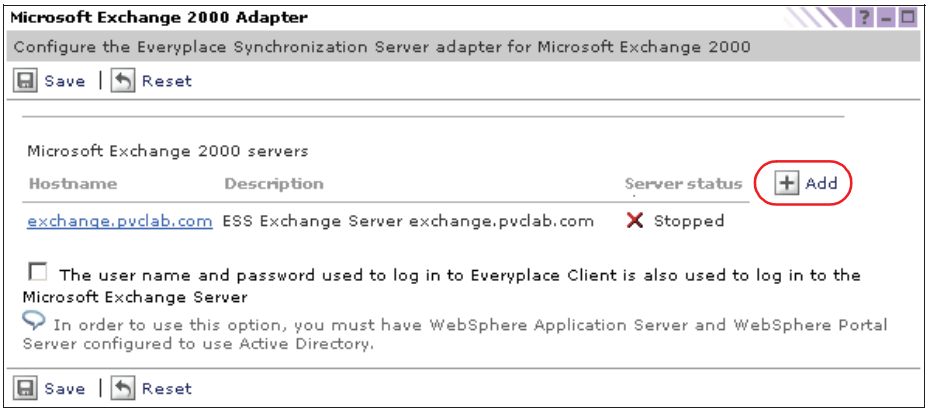


Figure 2-13 Microsoft Exchange 2000 adapter portlet

2. Type the hostname of the server you wish to add and the related description. First be sure you can reach it from the Everyplace Access machine.

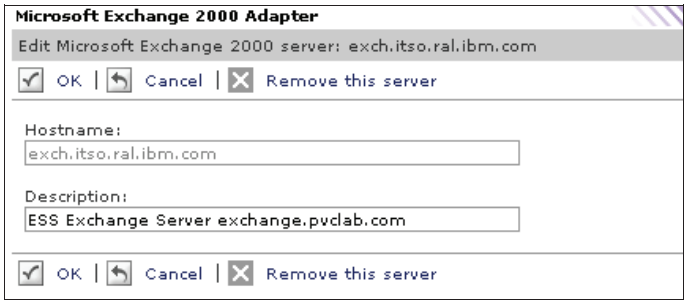


Figure 2-14 Add the server

3. Click **Done** to return to the previous page.

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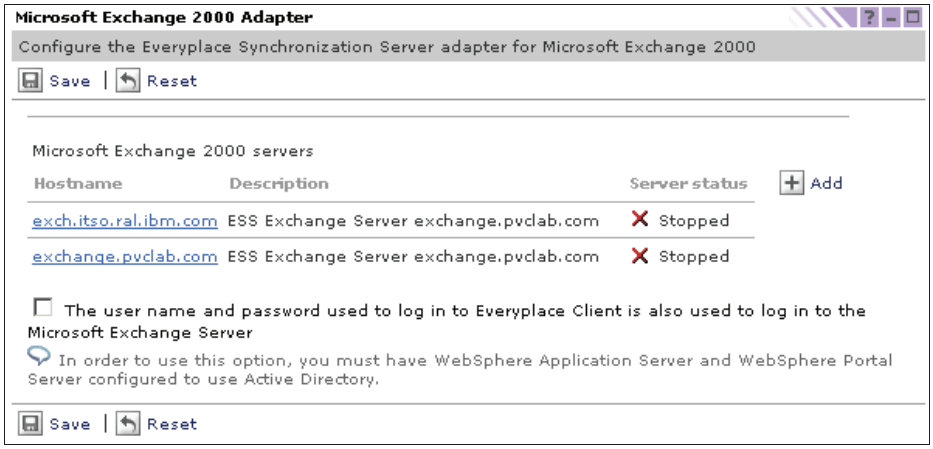


Figure 2-15 Configuring the adapter

You will need to restart the Everyplace Synchronization Server. After this you should see your new server up and running.

2.3.4 Creating a default synchronization setting for the user

A device profile is a group of settings (filters) that limit the scope of synchronized data. Device profiles are device-specific. Each device can have one and only one profile associated with it at a given time. To synchronize data to his device, a user must create his own device profile or use one created by the administrator.

Device profiles can be categorized into the following two groups:

- Administrator profile

  Administrator profiles are created by the Everyplace Synchronization administrator. These profiles can be linked to by user profiles such that the user profiles will automatically inherit changes made to the perspective linked administrator profiles. You will define administrator profiles using the Synchronization Administrator Profiles portlet.

- User profile

  Each Everyplace Synchronization user will have a user profile for the targeted synchronization device. A user profile can link to an administrator profile, or can be created separately. A user profile can be created by either the Everyplace Synchronization administrator or by the user. You will create user profiles using the Synchronization Administrator for User portlet or the Synchronization User Profiles portlet.

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In this configuration, you will create an administrator profile called ITSO Mobile Users. You will then use the Synchronization Administrator for User portlet to create a user profile for the user, and link the profile to ITSO Mobile Users.

Perform the following steps to create a default device profile:

1. Log in to the portal using the administrator's user ID and navigate to Administration in the portal controls, and from the left links choose **WebSphere Everyplace** → **Everyplace Synchronization Server Administration** → **Synchronization Administrator Profiles**.

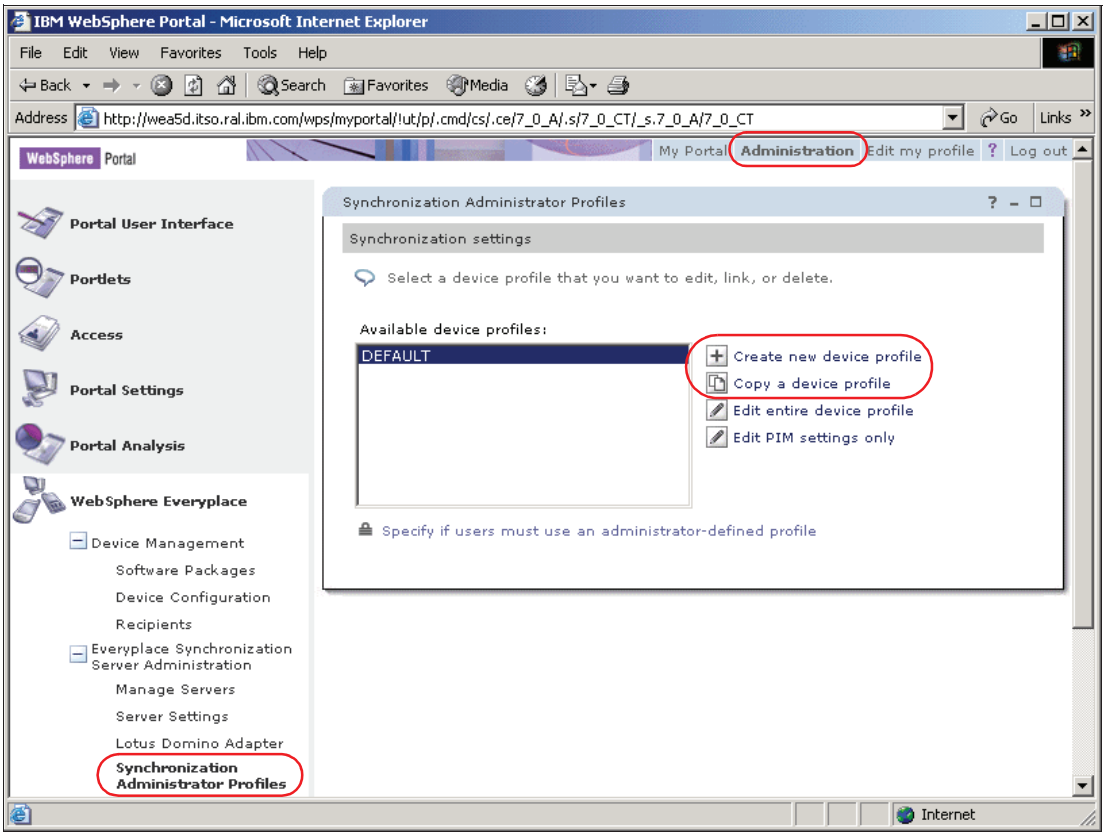


Figure 2-16 Synchronization Administrator Profiles

2. Select **Create new device profile**. Complete the "Provide a name for your new profile" and "Provide a device description for your profile" fields with brief descriptions of your profile. Click **Next** to continue.

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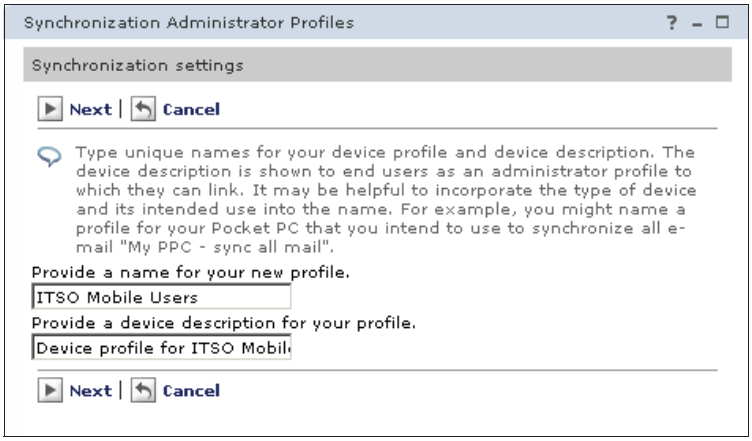


Figure 2-17 Synchronization Administration Profiles - Providing a name

3. You will be presented with the list of features that can be configured. First we will configure e-mail. Click **Filter** under the E-mail section.

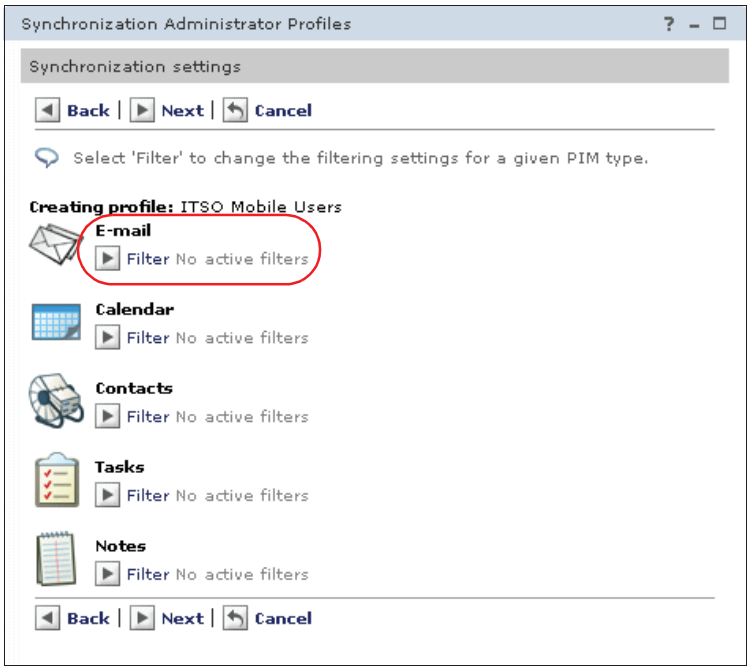


Figure 2-18 Synchronization Administration Profiles - Selecting filters

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4. You have many options to configure e-mail synchronization. There are two sections:
   - The top section under Creating profile lists filters specific to the default device profile you are creating.
   - The bottom section under Global Mail Filters lists filters used for *all* e-mail synchronized.

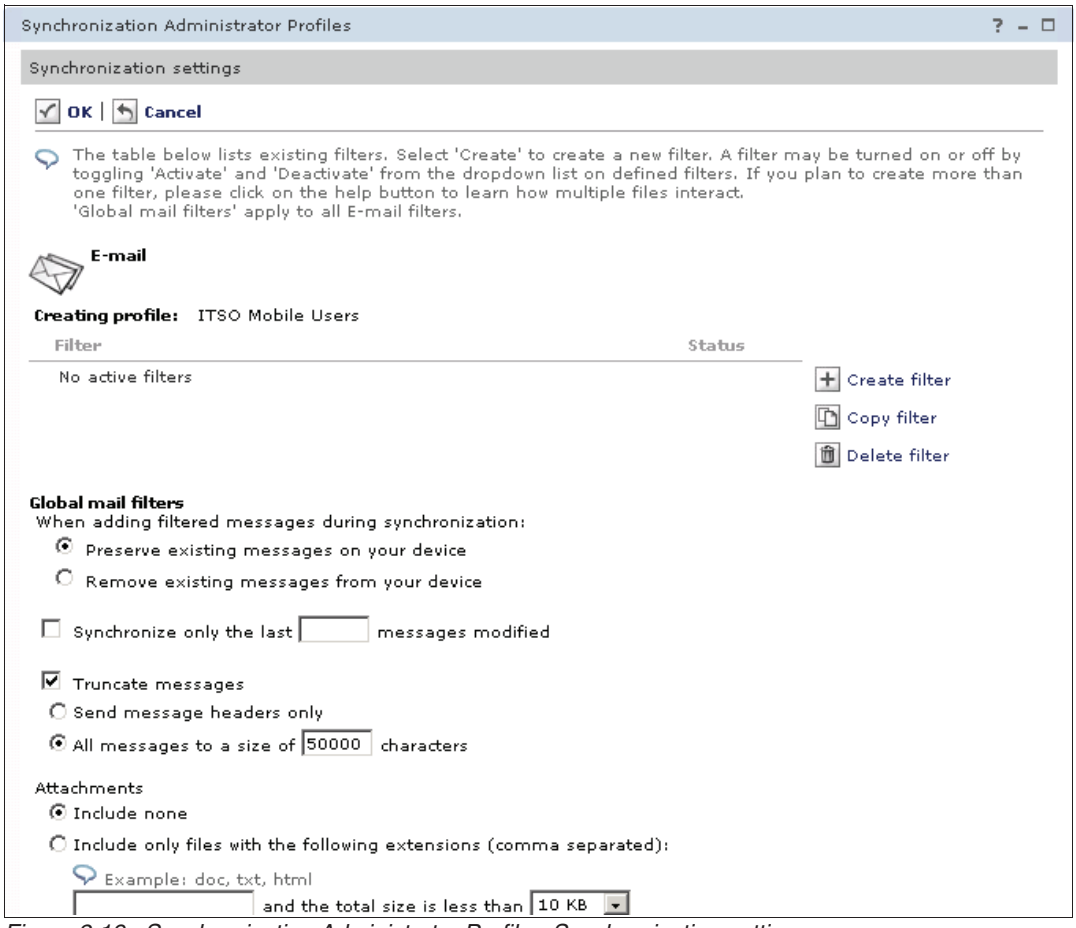


Figure 2-19 Synchronization Administrator Profile - Synchronization settings

5. We will deal with the global settings. Notice that by default attachments are not synchronized. However, in this example we will use the attachment with extension .doc and a size of less than 250 KB.
   - Select **Include only files with the following extensions (comma separated)**.

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– Enter doc as file extension.
– Select **250KB** from the drop-down list.

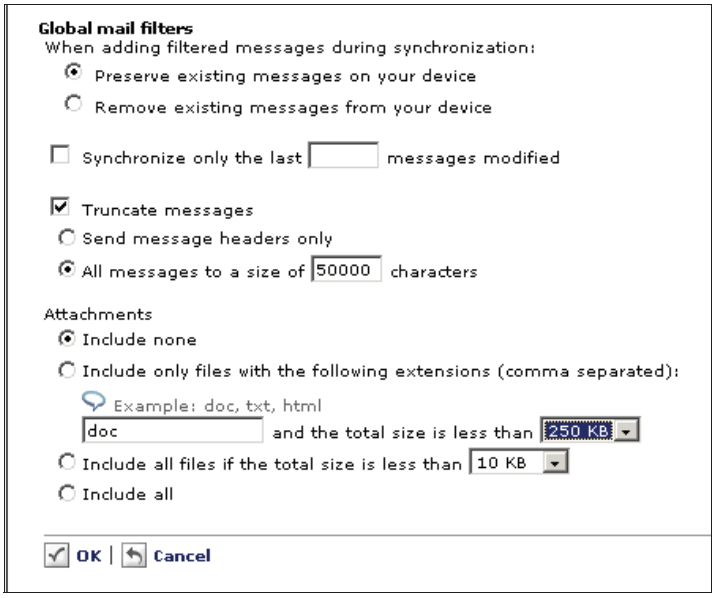


Figure 2-20 Global mail filters

6. Click **Create filter** on the right, and an edit page will be displayed, with various options regarding how e-mail will be filtered.
7. Type `Only e-mail received in the last week` in the “Provide a descriptive name for this filter” option.
8. Expand **Date section** and select **Date received** and **This week**.

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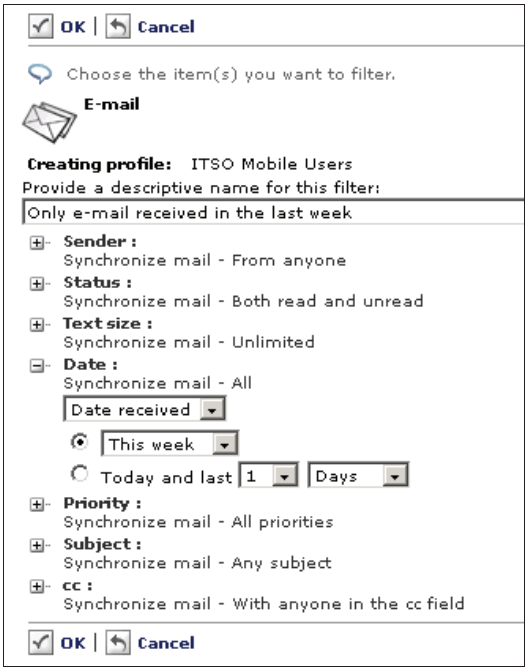


Figure 2-21 Synchronization settings

> **Note:** The This week option runs Sunday to Sunday. For example, if you are performing the synchronization on Tuesday, you will get Sunday to Tuesday, not Tuesday to Tuesday. If you need a real week, then choose the Last 7 Days option.

9. Leave the rest of the values as default and click **OK** to save this filter. The filter is added with a status of active.

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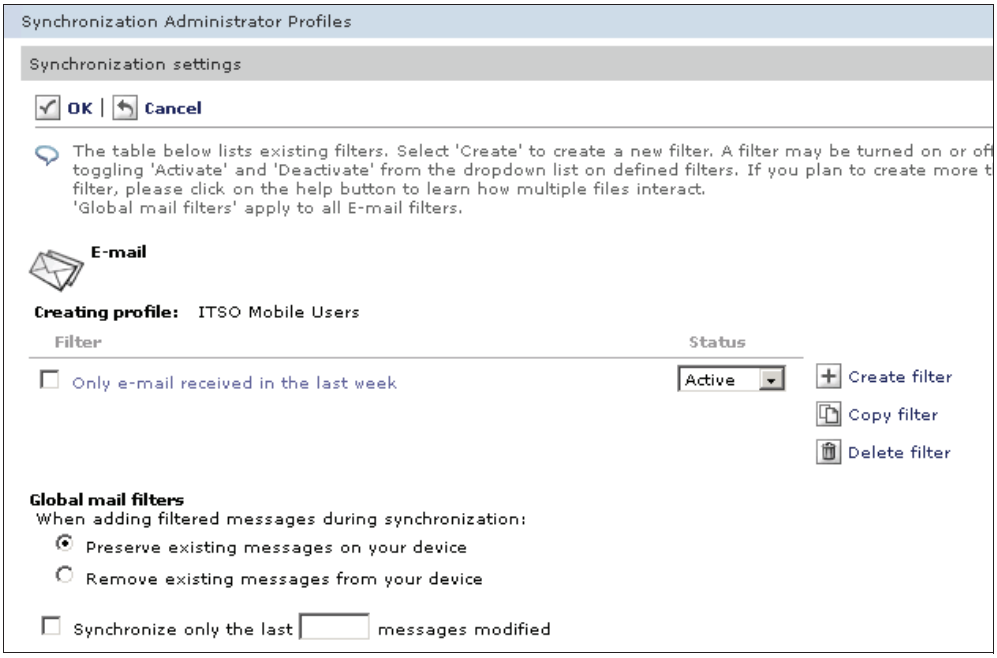


Figure 2-22 Synchronization settings

10. Click **OK** to save these changes. You should see that E-mail type has one active filter.

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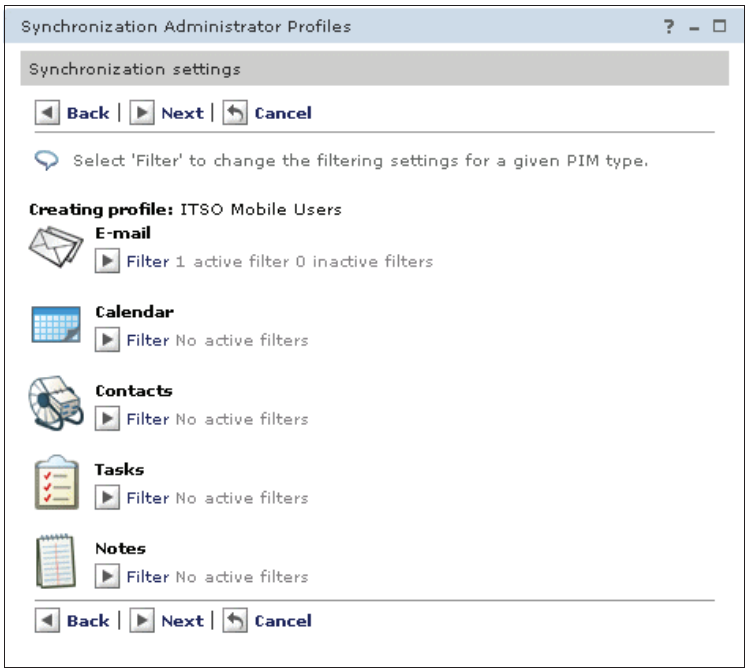


Figure 2-23 Synchronization settings - Main

11. To configure Calendar filters, click **Filter** next to Calendar. Then click **Create filter**.

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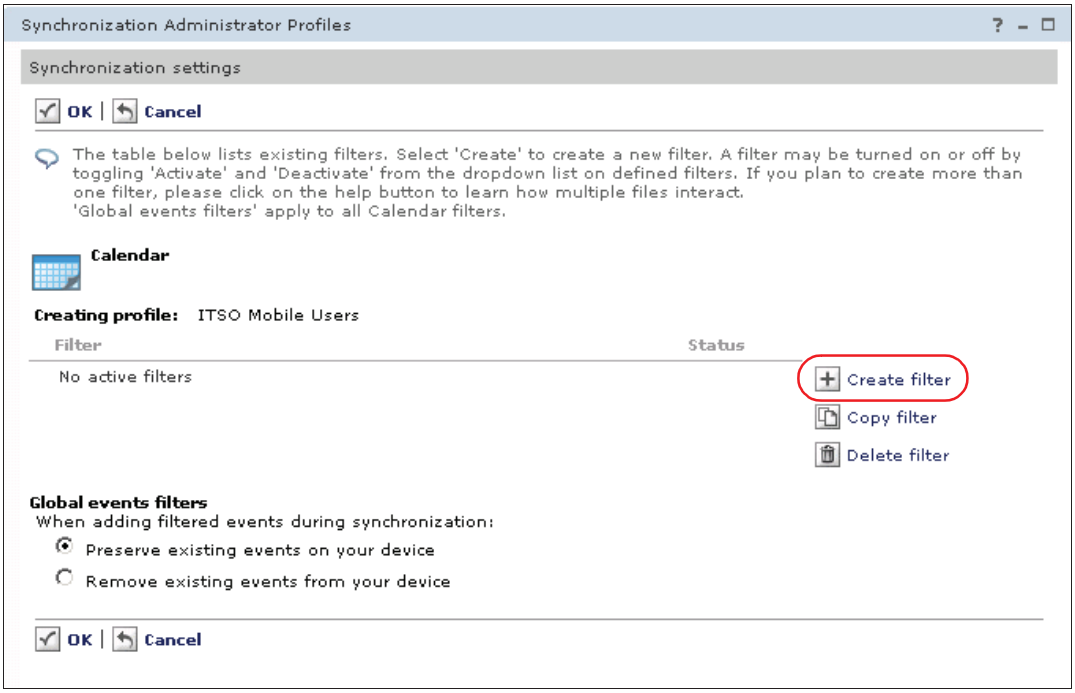


Figure 2-24 Calendar filters

12. There are various filters or options that can be applied to calendar items. For this example users will only be able to synchronize data within a three-month window. However, users can change this in their personal profile if required. Enter a title in the “Provide a descriptive name for this filter” field.

13. Expand **Start date of entry** and select **This time interval**. Then select the values **1** and **Months** from the “in the past to” section, and select values **2** and **Months** from the “in the future” section.

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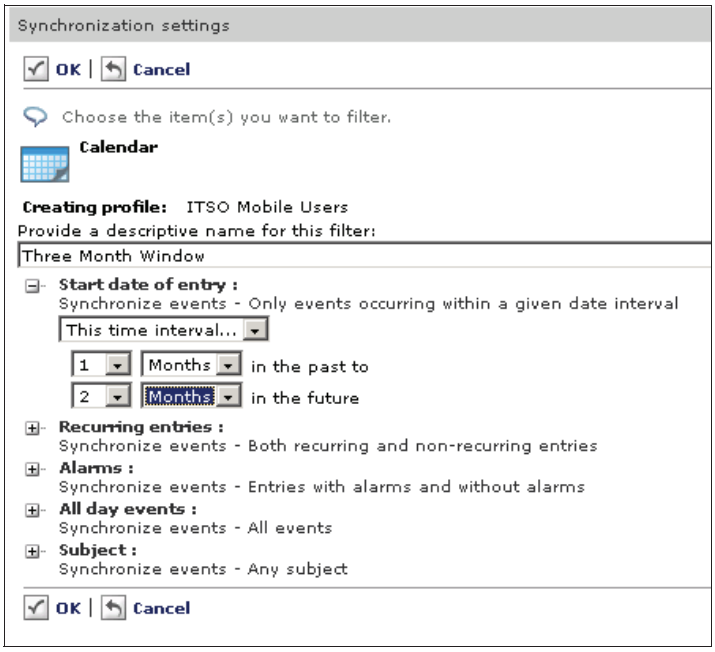


Figure 2-25 Calendar filters

14. Click **OK** to save these changes. You will be taken back to the previous screen and should see there is now an active filter called *Three months window*.

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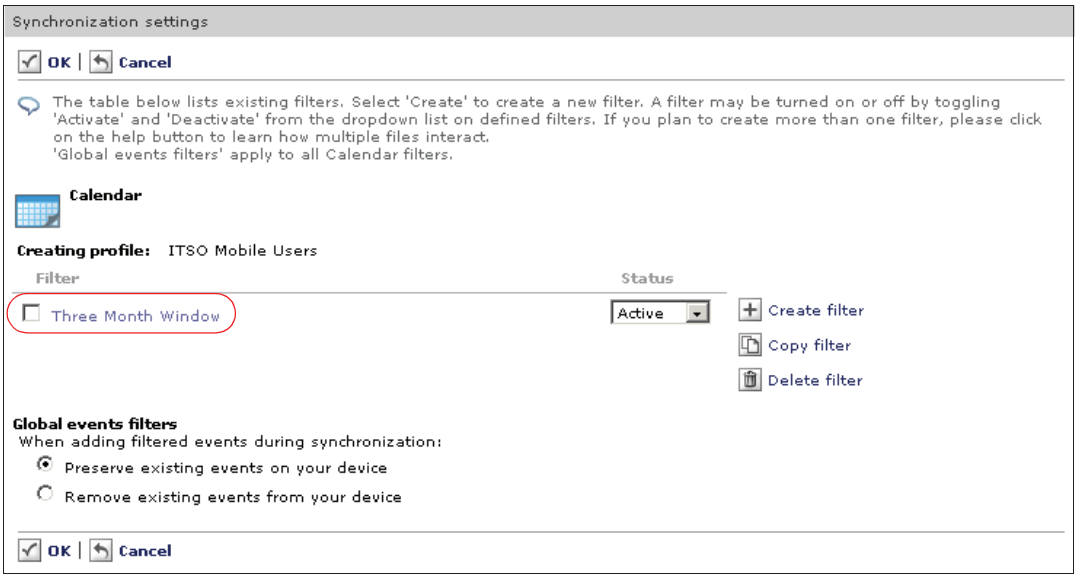


Figure 2-26 Calendar filter

15. Click **OK**.
16. We will not create filters for Contacts in this example. We will create a filter for Tasks. This is created the same way as previous filters. Select **Tasks** and then click **Create filter**.
17. Enter `Only high priority tasks`. Select **Priority** and **High Only**. Click **OK** twice to save your changes.

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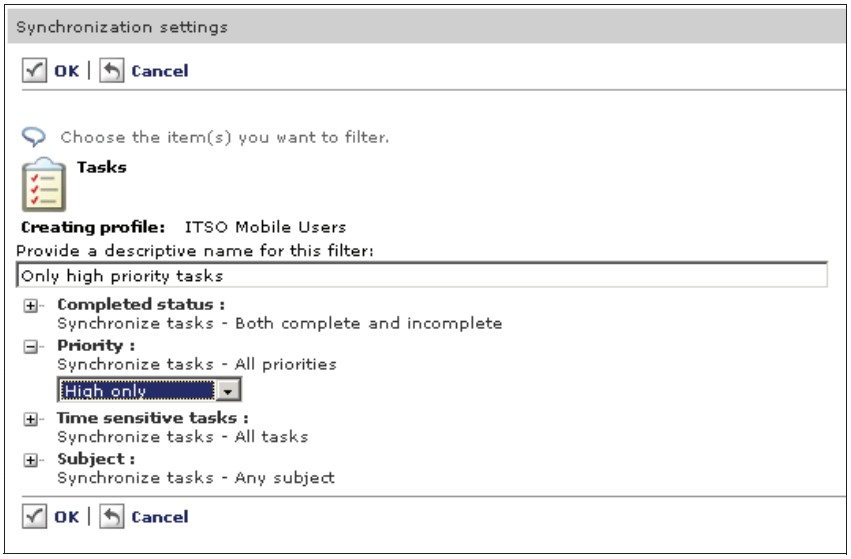


Figure 2-27 Tasks filter

18. Leave Notes configured as default so everything gets synchronized. Click **Next** to continue.

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Figure 2-28 Synchronization settings

19. Now you are prompted for what to do if a conflict occurs. In this case select **Server**. Click **Next** to continue.

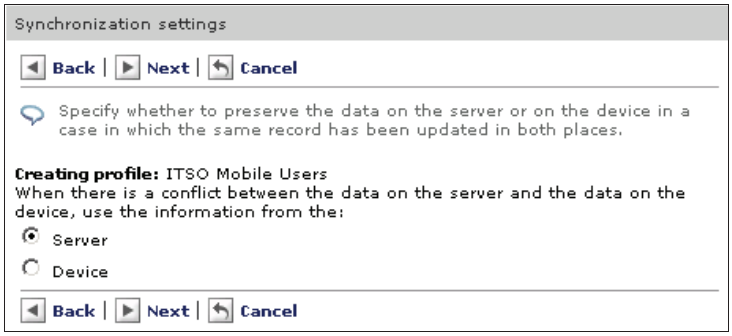


Figure 2-29 Synchronization settings

20. Check the summary of all the filters you have created. There should be three active filters:
    - E-mail, Only e-mail received in the last week
    - Calendar, Three months window
    - Tasks, Only high priority tasks.

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21. Click **OK** to save this profile. You should see the ITSO Mobile Users profile in the list of available profiles.

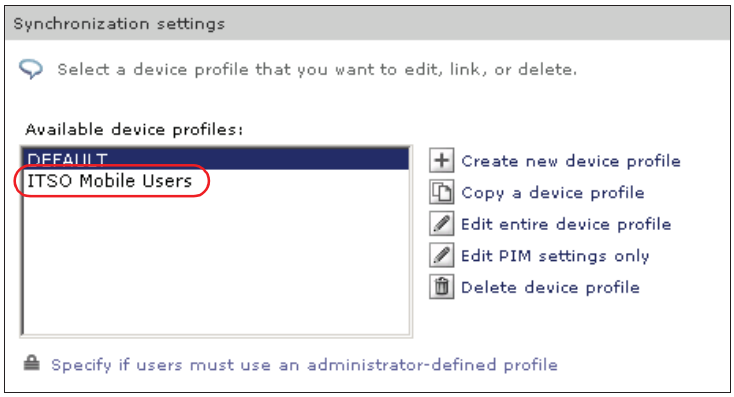


Figure 2-30 Available device profiles

2.3.5 Configuring the user's preferences

After creation of the administration profile, you will create the user profile.

1. In the left navigation, click **WebSphere Everyplace** → **Everyplace Synchronization Server Administration** → **Synchronization Administrator for User**. The Synchronization Administrator for User portlet will be displayed. Search for the user and select it from the resulting list. Click **Next**.

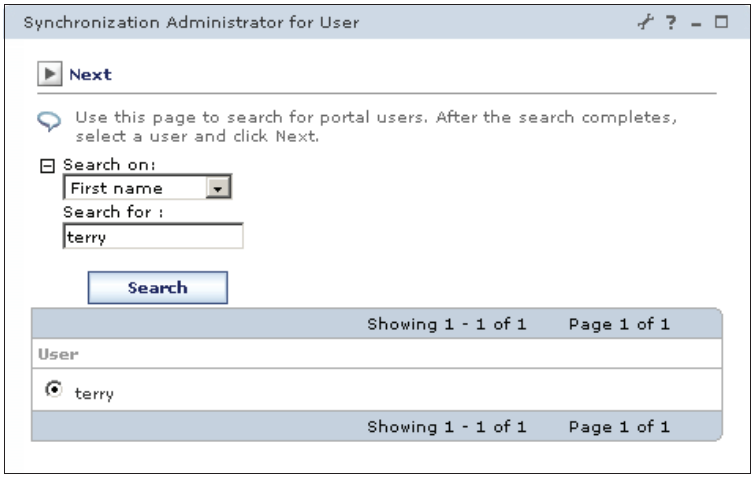


Figure 2-31 Synchronization Administration for User

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2. Click **Create new device profile**.

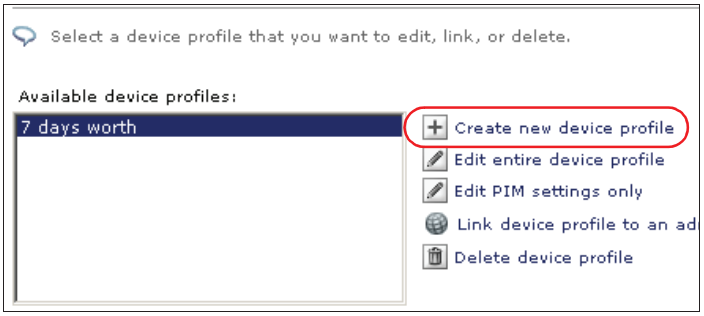


Figure 2-32 Selecting Create new device profile link

3. Provide a name for the user profile and click **Next**.

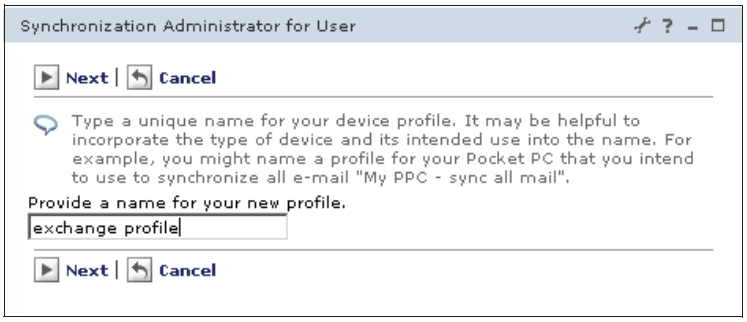


Figure 2-33 Providing a name for the profile

4. Specify the user and server information. Click **Next**.

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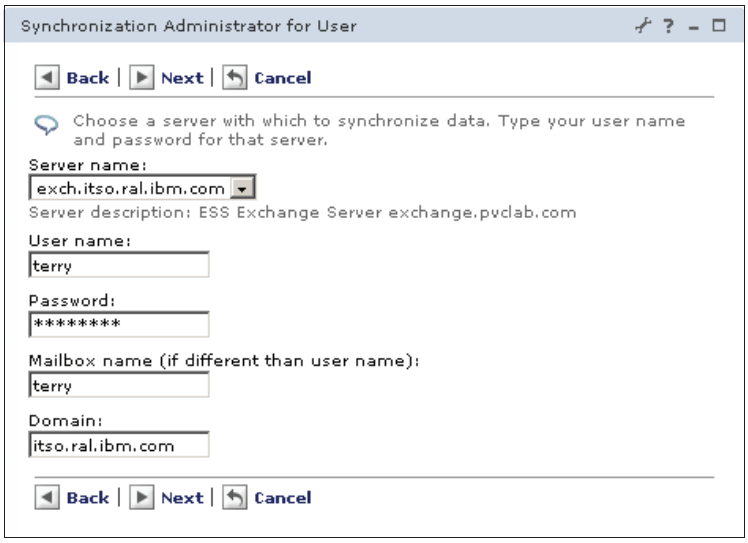


Figure 2-34 Choosing the server

5. Specify to **Link the new profile to select administrator-define profile Profile**. Click **Next** to continue.

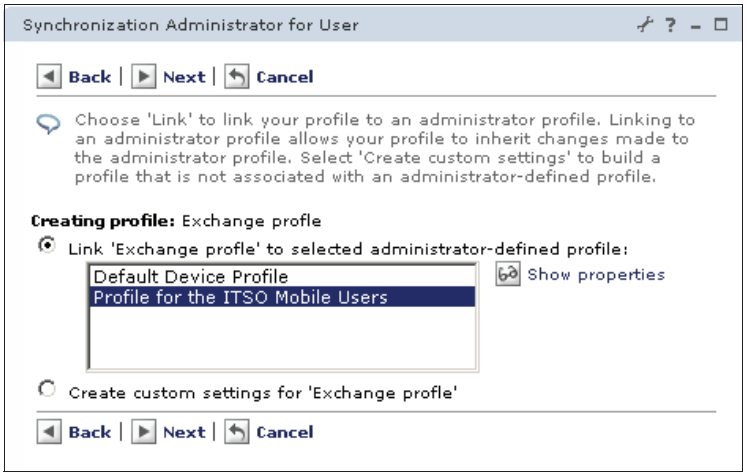


Figure 2-35 Linking the profile

6. The initial synchronization settings page will be displayed. You can specify how much data will be synchronized to the device when the first synchronization occurs. These initial synchronization settings differ from the

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normal synchronization setting that you have set and only take effect during the first synchronization. Leave the default settings and click **Next**.

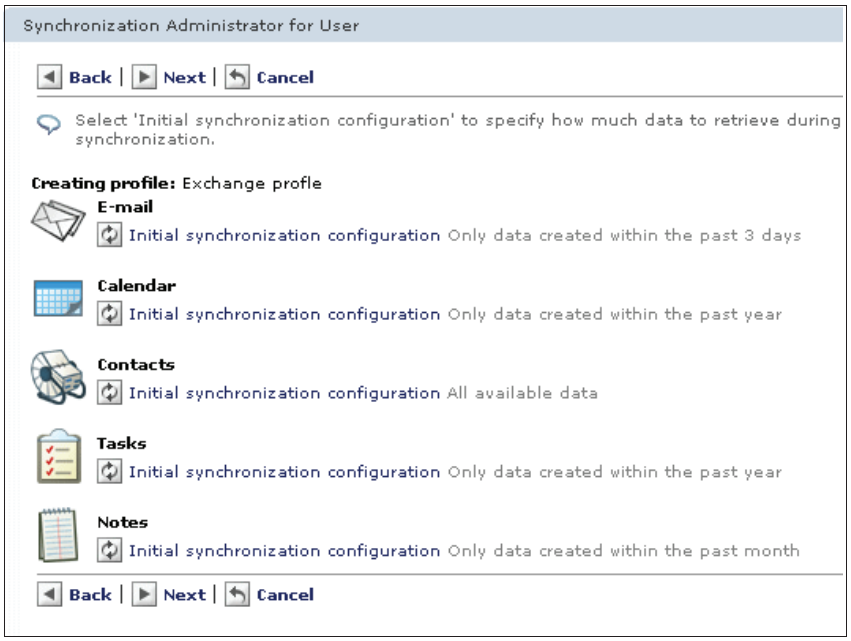


Figure 2-36 Creating the profile

7. Specify the privacy settings about what information can be logged. Select the appropriate boxes and click **Next**.

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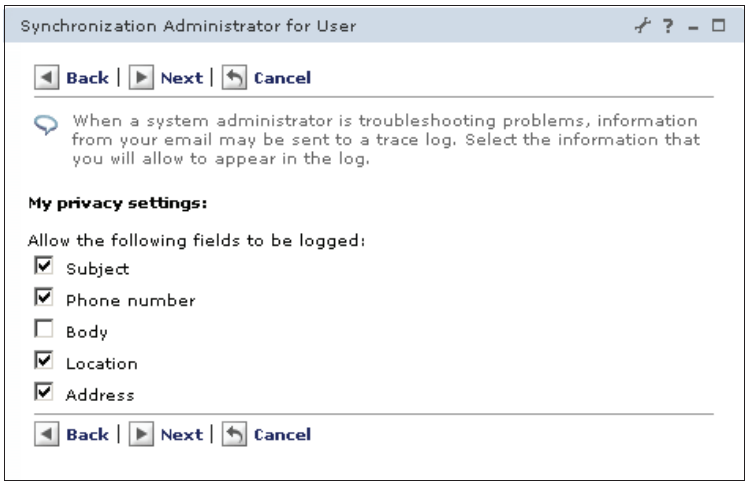


Figure 2-37 Privacy settings

8. Select the time zone from the first drop-down box. Click **Get locales for this time zone**. Subsequently select the locale from the second drop-down box and click **Next**.
9. The user profile summary will display. Click **OK** to save the user profile.

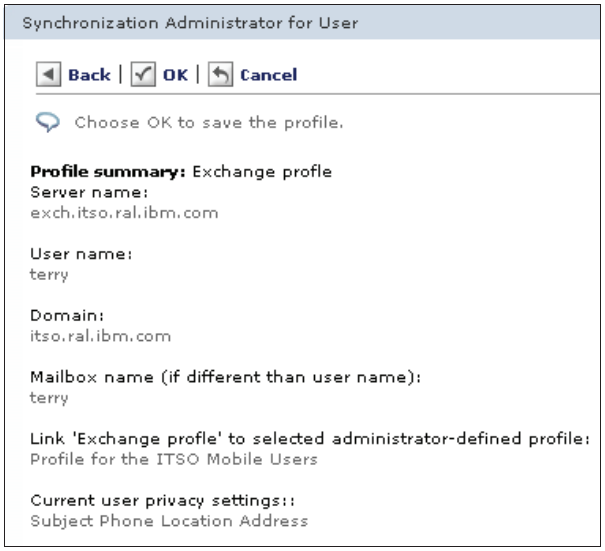


Figure 2-38 User profile summary

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10. The e-mail page will display. An e-mail will be sent to the user notifying her of the newly created profile. You will provide the following information. Click **OK**.

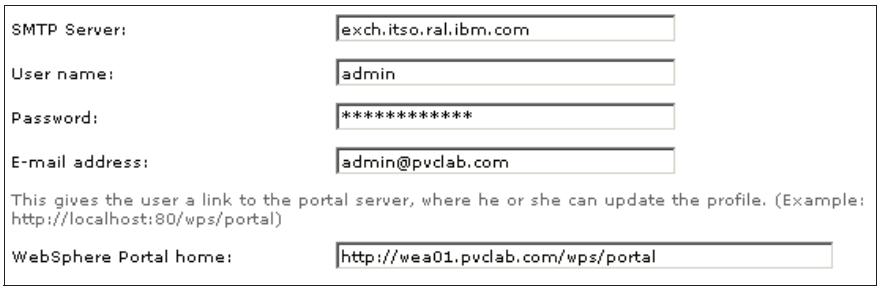


Figure 2-39 E-mail page

2.3.6 Setting up the Exchange portlets for online access

Everyplace Access provides portlets to access PIM and e-mail data online. In this section the Microsoft Exchange portlets will be set up and configured.

This section provides instructions for setting up Microsoft Exchange 2000 or 2003 applications in an Everyplace Access server. You must set up a portal vault slot for the Exchange 2000 or 2003 applications before users can access Exchange e-mail and PIM data from the Everyplace Access portal.

Setting up the credential vault slot

A credential vault is a repository to hold credential information. It allows portlets to access the credentials to provide single sign-on authentication.

First you must set up a portal vault slot for the Exchange application, and then you have to configure each portlet to use this vault slot.

1. Log in to the WEA portal as the administrator.
2. Navigate to the **Administration** page in the top right corner.
3. Click **Access** → **Credential Vault** from the left navigation menu. Click **Add a vault slot**.

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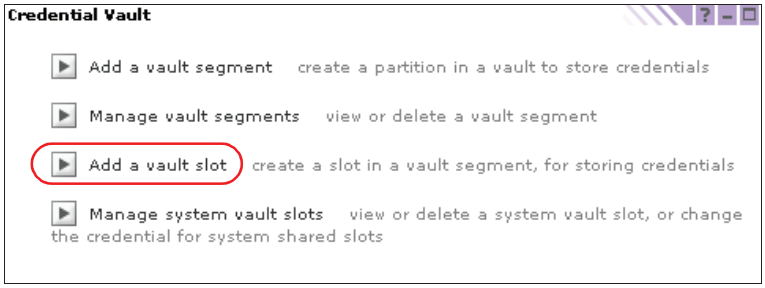


Figure 2-40 Credential vault

4. Type in a name for the slot in the Name field, such as Exchange. Optionally, type a description in the Description field.

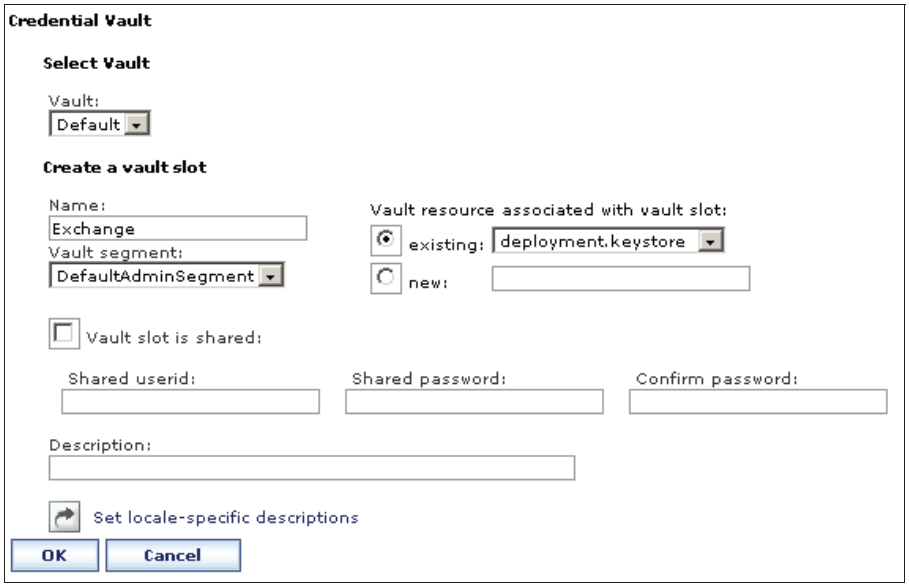


Figure 2-41 Credential Vault

5. Click **OK**. A message will appear indicating that the vault slot has been created successfully.

Configure the portlets

Follow these steps to configure the Microsoft Exchange portlets:

1. Log in to the WEA portal as the administrator.

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2. Navigate to **My Portal** → **WEA HOME** → **Microsoft Exchange** and click the configure icon (wrench) in the Microsoft Exchange Mail portlet.

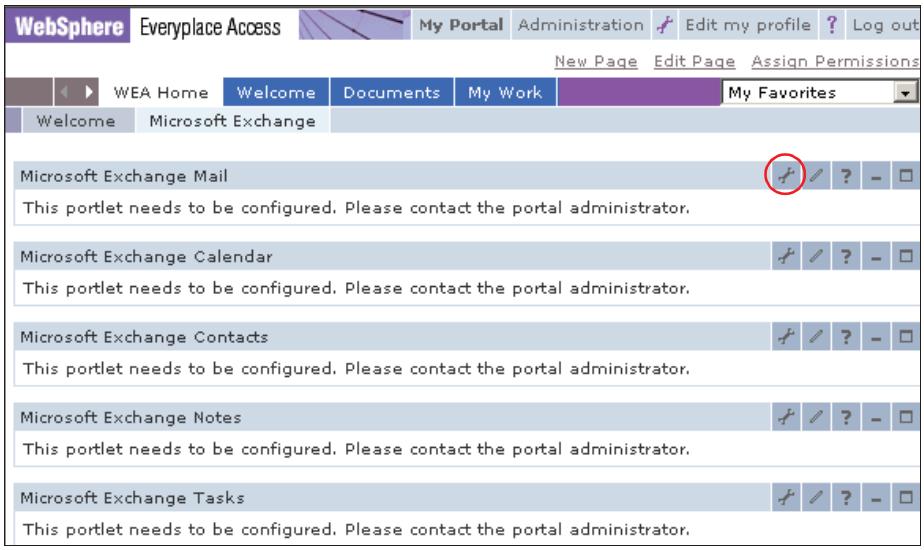


Figure 2-42 Microsoft Exchange portlets

3. From the list of available slots, select the slot you created in “Setting up the credential vault slot” on page 162 and click **OK**.

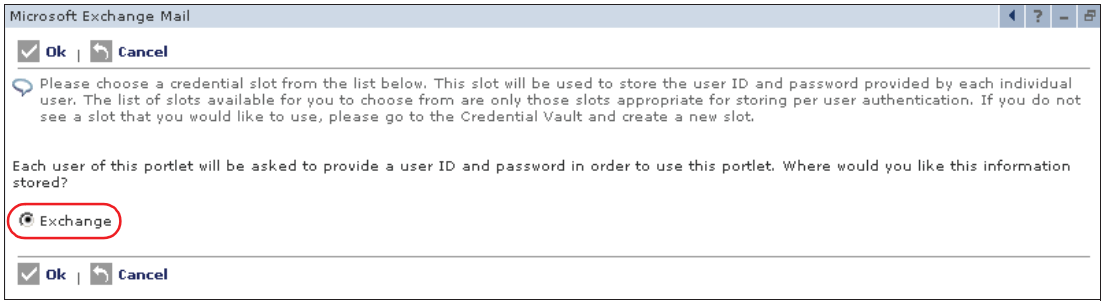


Figure 2-43 Credential slot for Microsoft Exchange

4. Repeat these steps for the remaining Exchange portlets (Calendar, Contacts, Notes and Tasks). Selecting the same slot for each portlet ensures that users can use the same user name and password to access all the Exchange portlets.
5. Log off.

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Once Exchange portlets have been configured by the portal administrator, Exchange users have to configure each portlet by entering their e-mail and PIM account information.

Important: Before a user can use the Exchange portlets he needs to have accessed his e-mail account at least once through the Exchange Web Interface. To do this, open a browser and go to the Exchange Web mail, in this scenario, for example, http://exch.itso.ral.ibm.com/exchange/*<username>*.

Follow these steps:

1. Log on to the Everyplace Access portal as one of the Exchange users (for example, Terry).
2. Navigate to the Exchange page. To configure the mail portlet, click the pencil icon of the Microsoft Exchange Mail portlet.

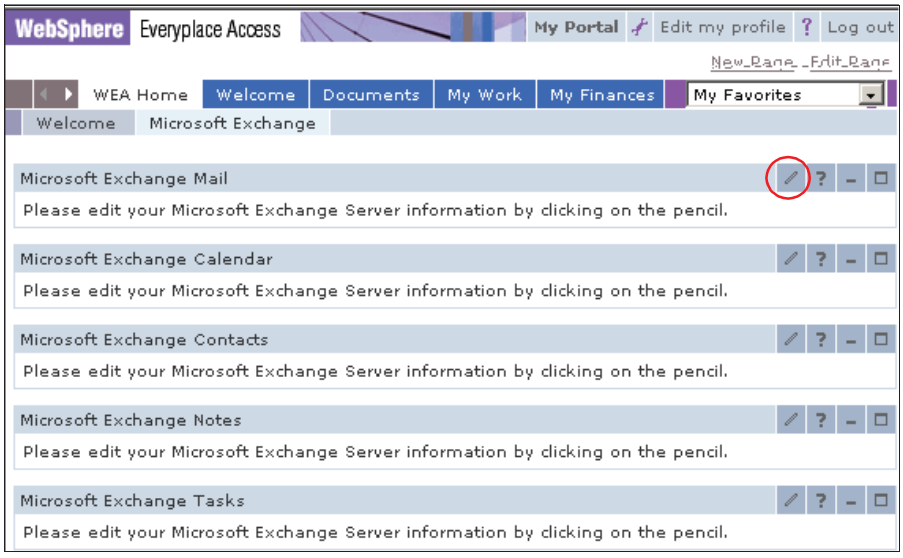


Figure 2-44 Microsoft Exchange portlets

3. Enter the needed information, such as Exchange server name, username, password, mailbox alias, domain, and Exchange mail address.

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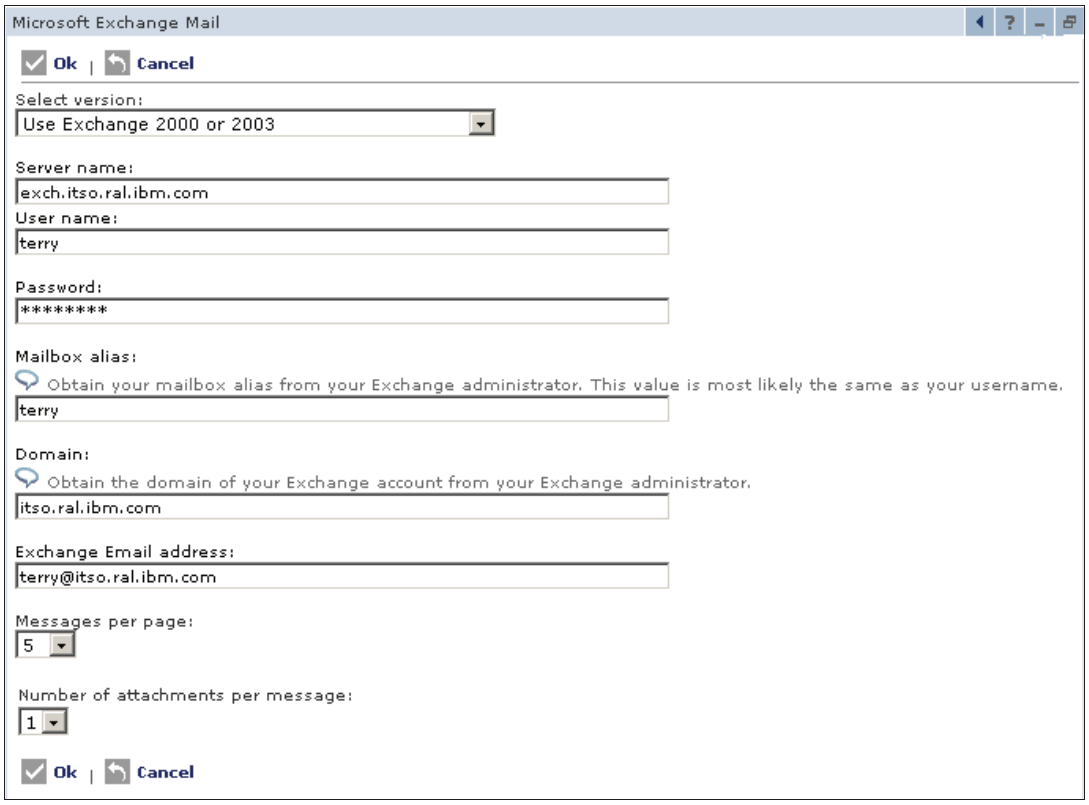


Figure 2-45 Microsoft Exchange Mail portlet configuration

4. Click **OK** to save the configuration. Notice that the mailbox will be shown now.

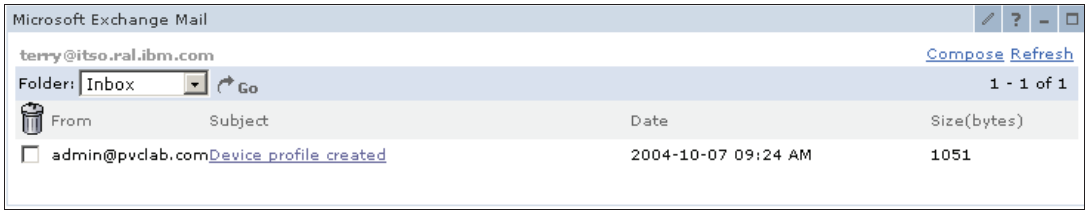


Figure 2-46 Microsoft Exchange Mail portlet

5. Now configure the remaining Exchange portlets.

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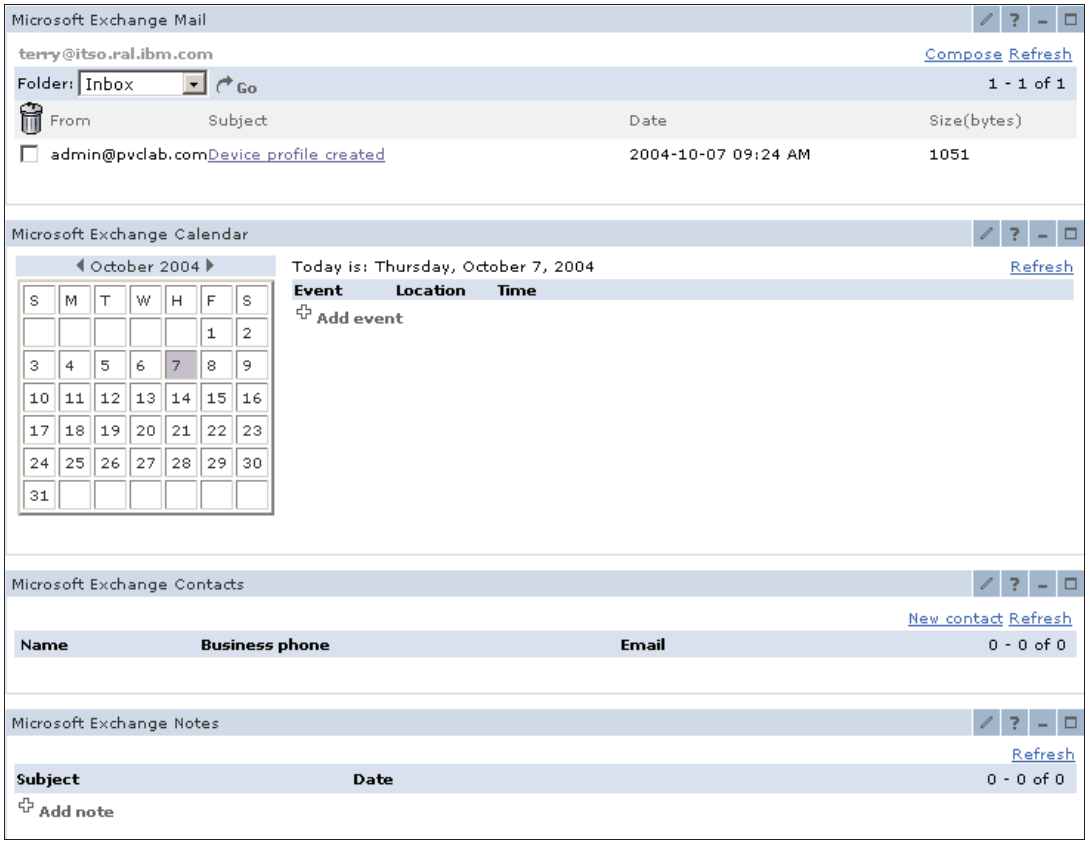


Figure 2-47 Microsoft Exchange portlets

Create data to be synchronized

We need sample data to show Exchange e-mail and PIM synchronization with the Everyplace Access server. Follow these steps to create data to be synchronized:

1. Log on to the WEA portal as an Exchange user (Terry).
2. Navigate to the Microsoft Exchange page.
3. Add a contact in the contact list. Click **New contact** on the Microsoft Exchange Contacts portlet.

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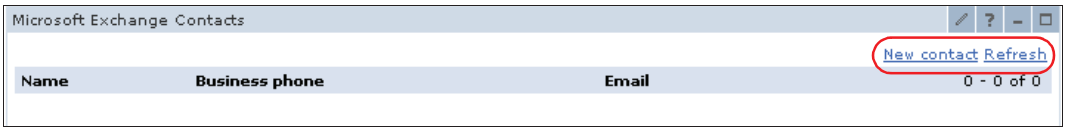


Figure 2-48 Microsoft Exchange Contacts portlet

4. Fill in the following information. Click to **OK** to save the new contact.



Figure 2-49 Microsoft Exchange Contacts portlet - Adding a contact

5. The contact will be displayed in the Microsoft Exchange Contacts portlet.



Figure 2-50 Microsoft Exchange Contacts portlet

6. Create a Note. Click **Add note** on the Microsoft Exchange Notes portlet to create an entry.

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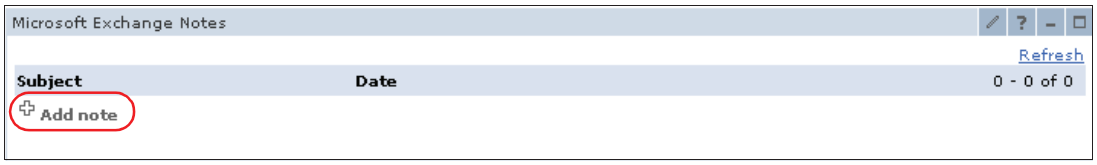


Figure 2-51 Microsoft Exchange Notes portlet

7. Type in some information and click **OK** to save.

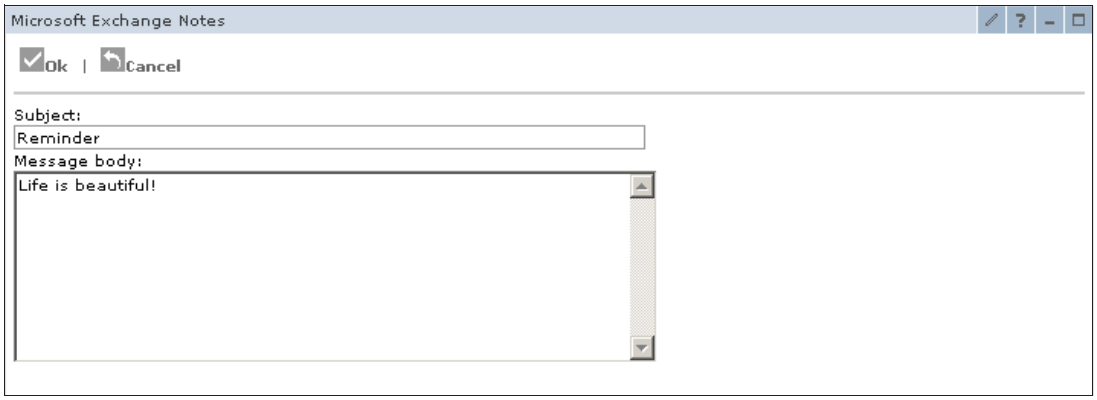


Figure 2-52 Microsoft Exchange Notes portlet - Adding a note

8. The entry will be displayed in the Microsoft Exchange Notes portlet.

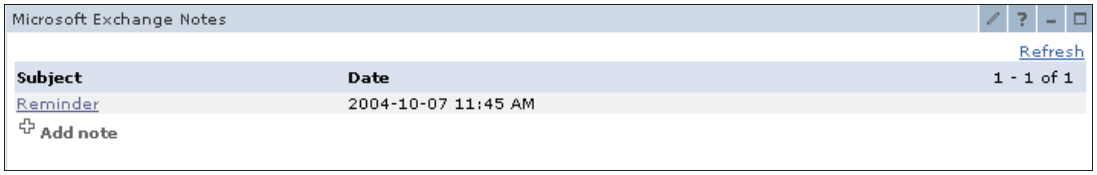


Figure 2-53 Microsoft Exchange Notes portlet

9. You will add a task using the Microsoft Exchange Tasks portlet. Click **Add task** on the Microsoft Exchange Tasks portlet.

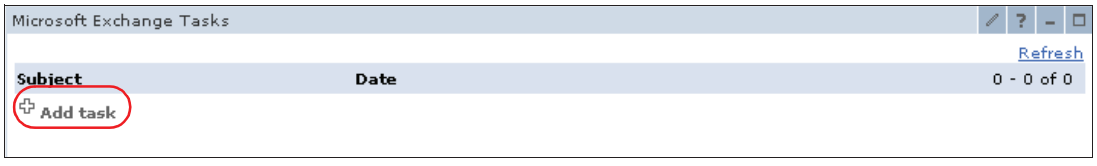


Figure 2-54 Microsoft Exchange Tasks portlet

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10. Type in some information and click **OK**.

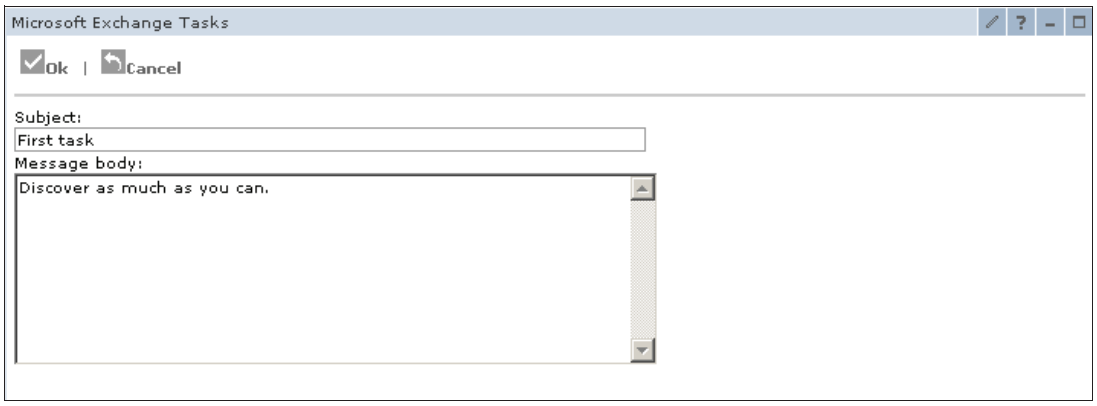


Figure 2-55 Microsoft Exchange Tasks portlet - Adding a task

11. The task will be displayed in the portlet.

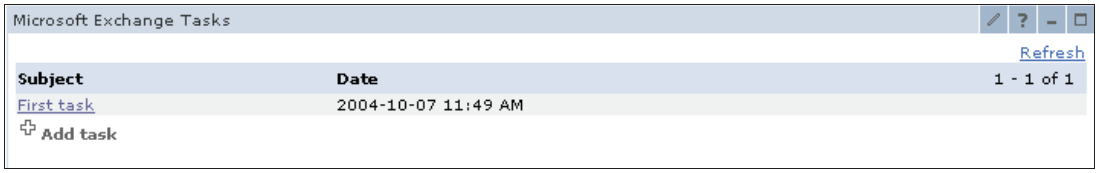


Figure 2-56 Microsoft Exchange Tasks

Now we will have another user send three e-mails to our user, Terry.

- An e-mail with a .txt attachment
- An e-mail with a small .doc attachment
- An e-mail with a large .doc attachment

Follow these steps:

1. Log on to the WEA portal as another Exchange user (Marcy).
2. Navigate to the Microsoft Exchange page.
3. On the mail portlet, click **Compose** in the upper right corner. Type Terry's mail address in the To field. Enter a subject and the message body and click the **Browse** button to attach a .txt file. Click **Send**.

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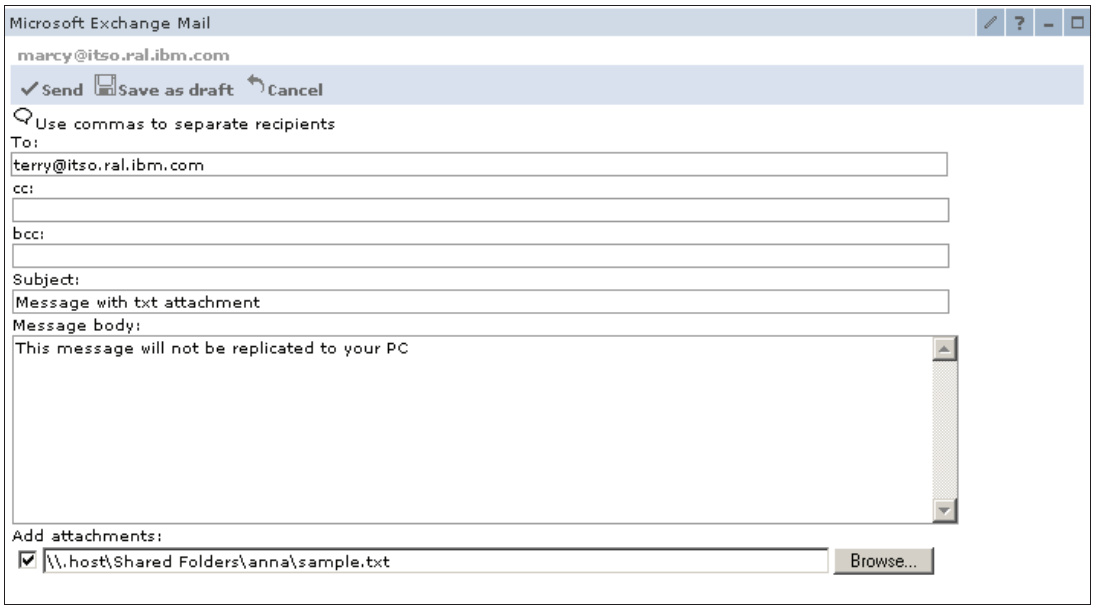


Figure 2-57 Message with a .txt attachment

4. Use the above instructions to prepare and send two more e-mails to user Terry, one with a .doc attachment that is smaller than 250 KB, and the other one with an attachment that is larger than 250 KB.

   Figure 2-58 illustrates a message with a document attachment smaller than 250 KB.

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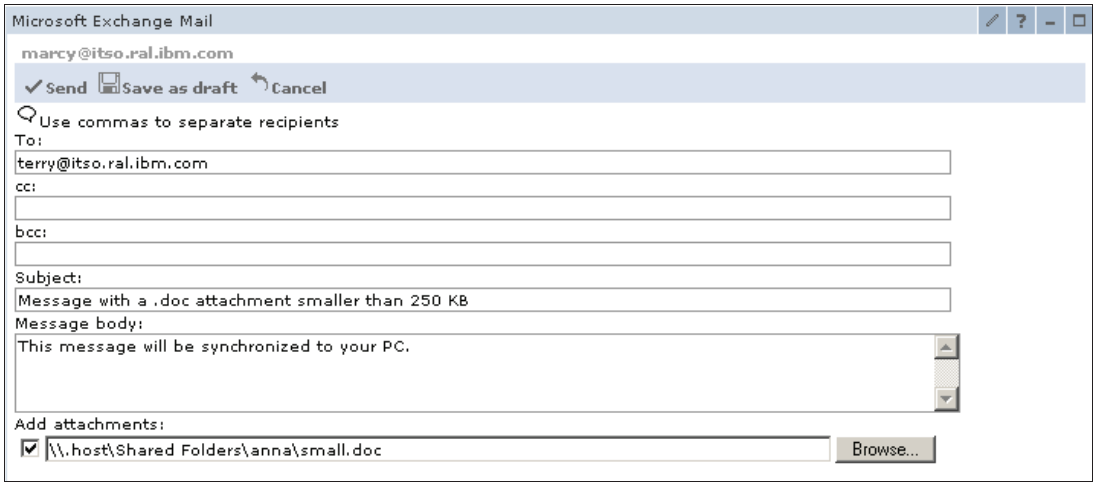


Figure 2-58 Message with a .doc attachment smaller than 250 KB

Figure 2-59 illustrates a message with a document attachment larger than 250 KB.

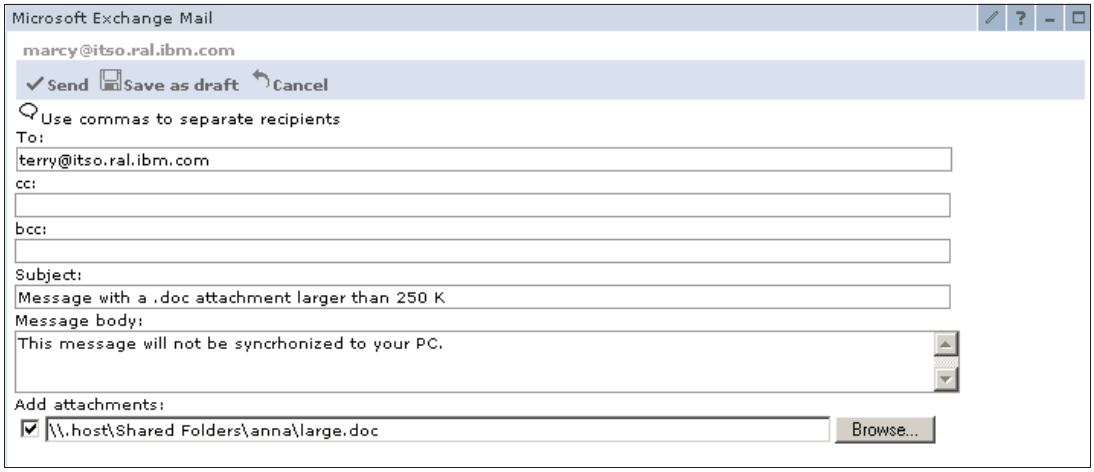


Figure 2-59 Message with a .doc attachment larger than 250 KB

5. Log off from Everyplace Access and log on as this user to the Exchange server by navigating to `http//:wea01.pvclab.com/exchange/marcy/`.
6. Click **Calendar**. Create a new calendar entry (appointment).

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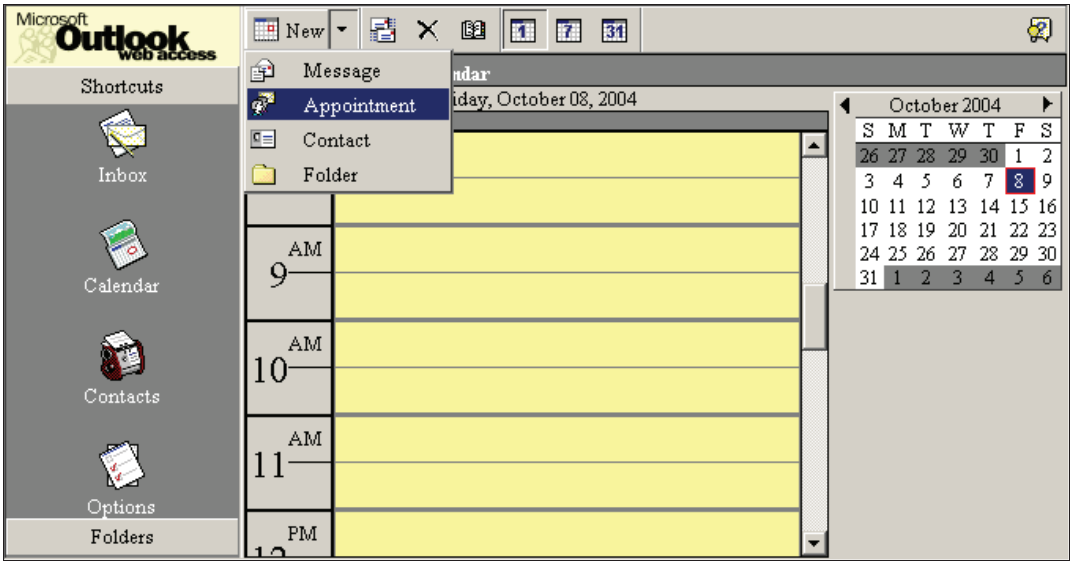


Figure 2-60 Creating an appointment (Microsoft Exchange 2000)

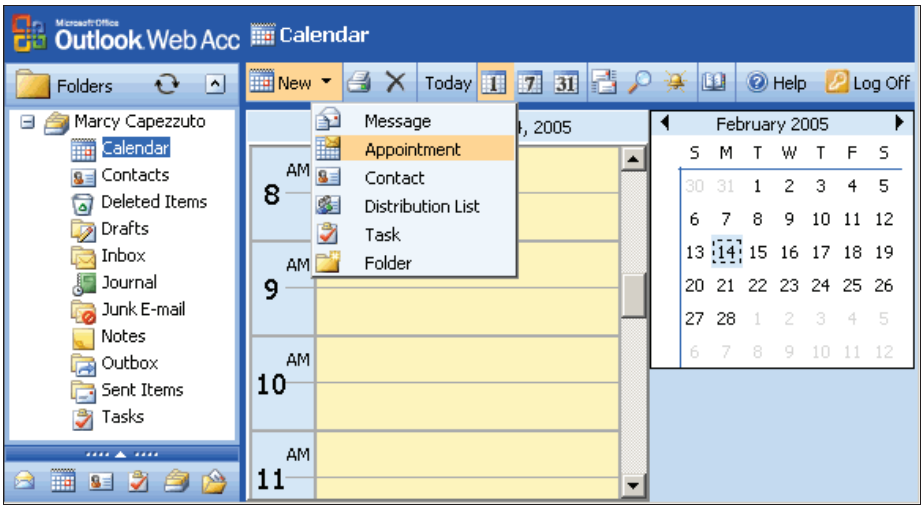


Figure 2-61 Creating an appointment (Microsoft Exchange 2003)

7. Select a date and time and type in some information. Then select **Invite Attendees**, as shown in Figure 2-62.

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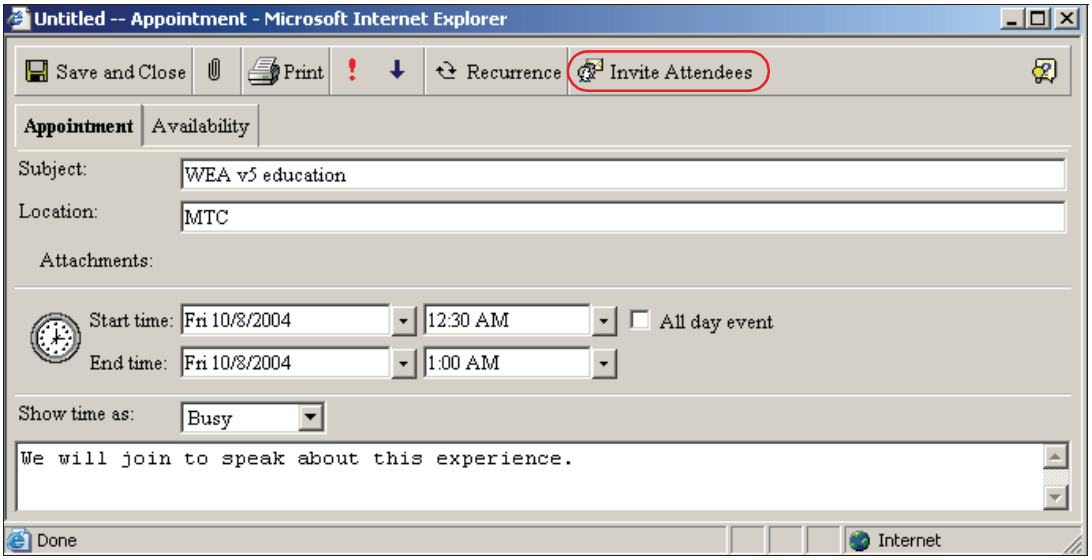


Figure 2-62 Creating an appointment (Microsoft Exchange 2000)

Figure 2-63 illustrates the corresponding window for Microsoft Exchange 2003.

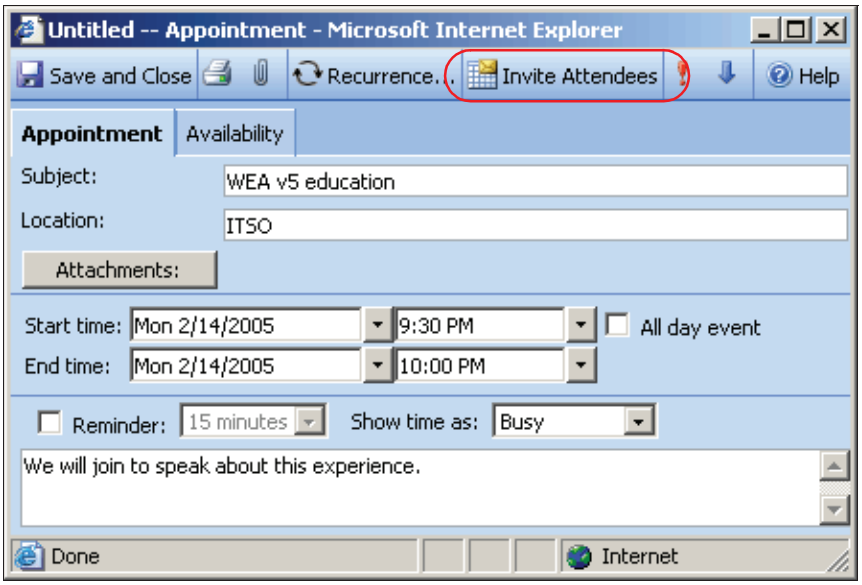


Figure 2-63 Creating an appointment (Microsoft Exchange 2003)

8. Type in `Terry` as the required invitee and click **Check names**.

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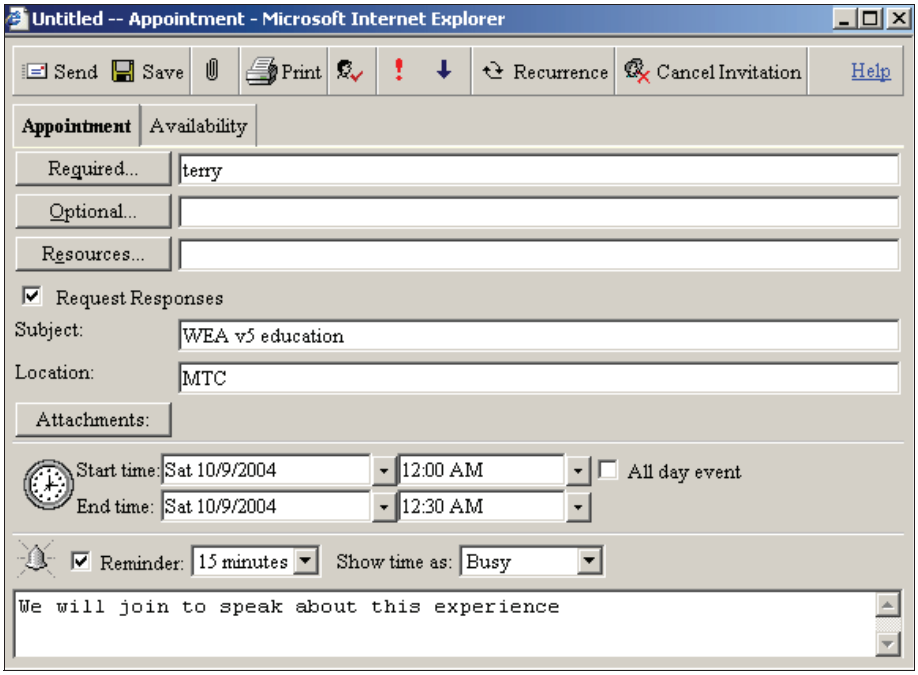


Figure 2-64 Creating an appointment - Adding invitees (Microsoft Exchange 2000)

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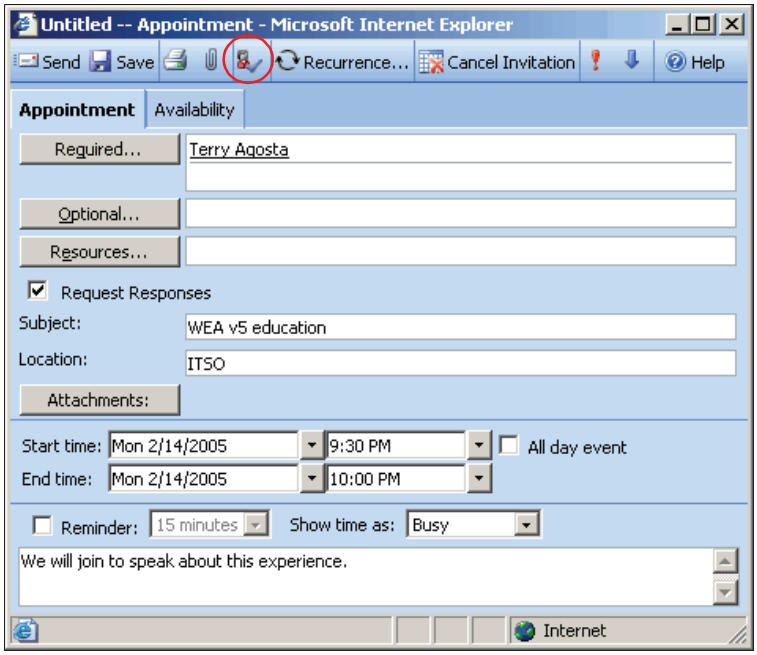


Figure 2-65 Creating an appointment - Adding invitees (Microsoft Exchange 2003)

9. Click **Send**.

10. Now create a recurring meeting. Follow the steps outlined above and click **Recurrence** on the following screen.

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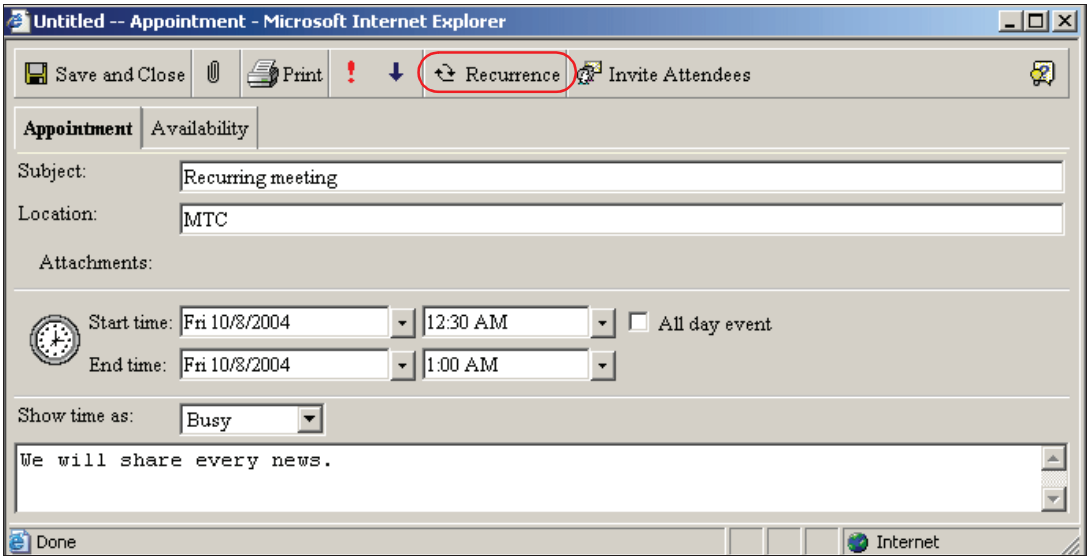


Figure 2-66 Creating a recurring meeting (Microsoft Exchange 2000)

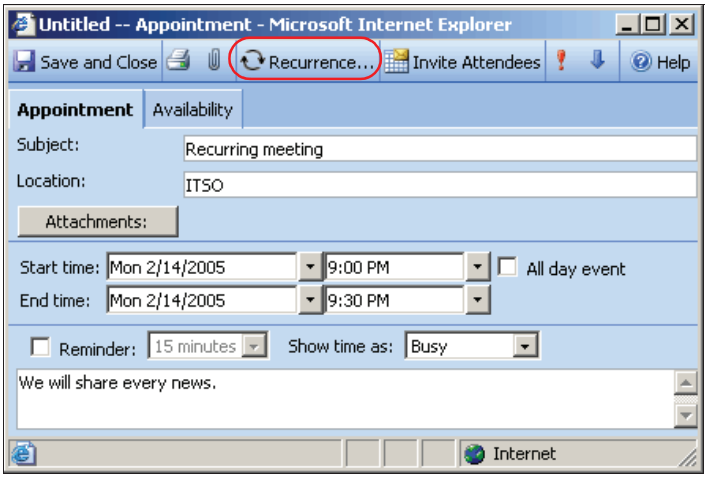


Figure 2-67 Creating a recurring meeting (Microsoft Exchange 2003)

11. Select the **Weekly** and **End after 10 occurrences** options and click **OK to** create a meeting that will recur for ten weeks.

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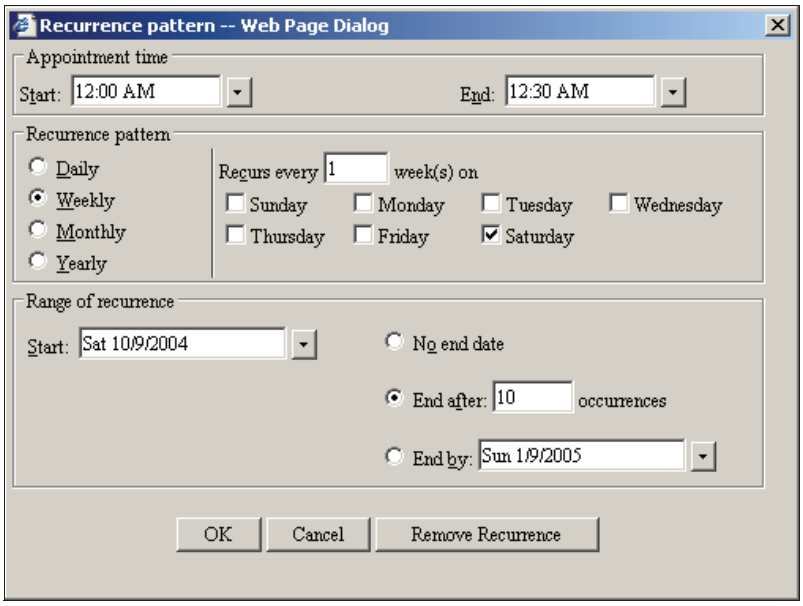


Figure 2-68 Creating a recurring meeting - Recurring pattern (Microsoft Exchange 2000)

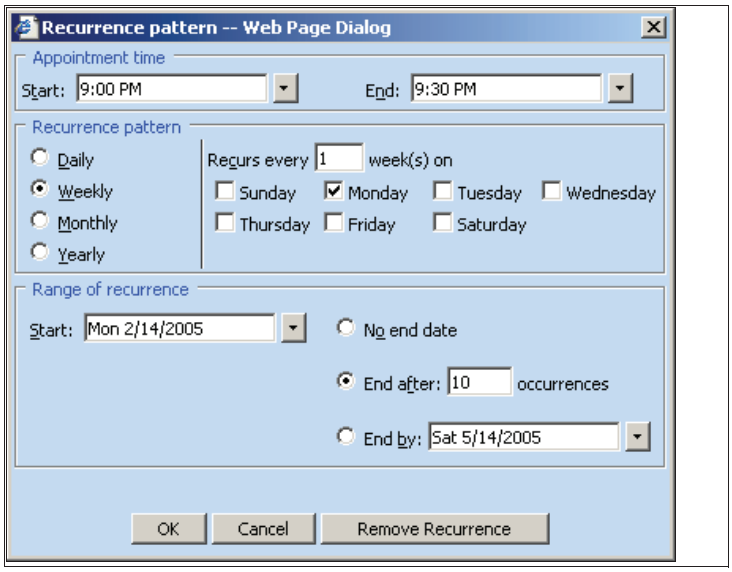


Figure 2-69 Creating a recurring meeting - Recurring pattern (Microsoft Exchange 2003)

12. Add the invitee (Terry) and click **Send**.

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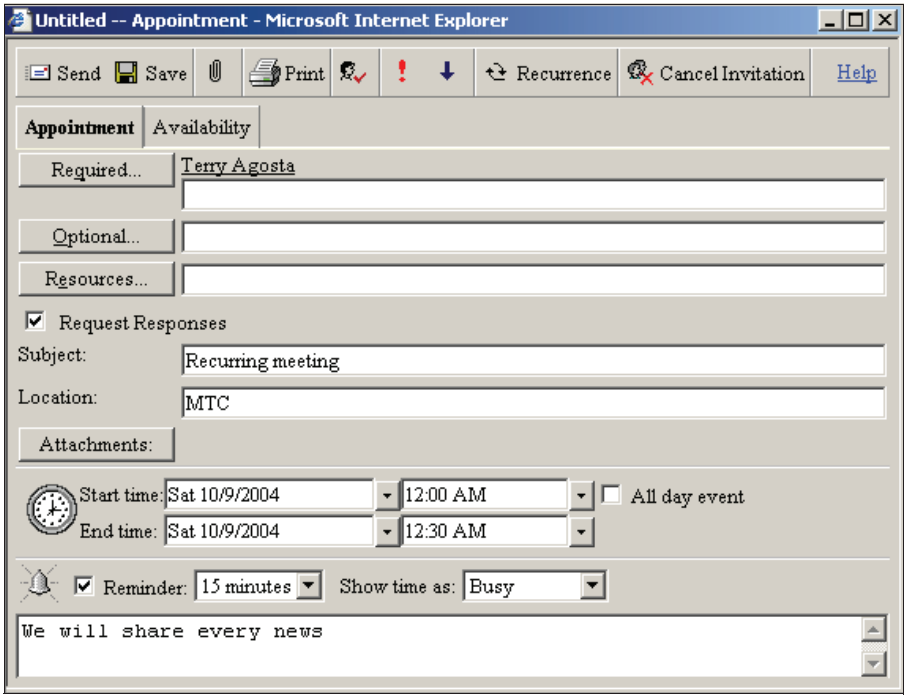


Figure 2-70 Creating a recurring meeting - Adding invitees (Microsoft Exchange 2000)

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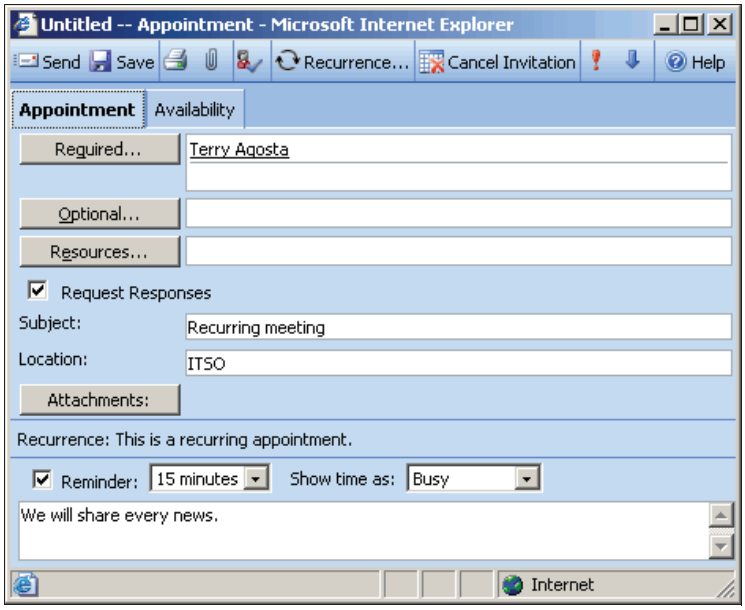


Figure 2-71 Creating a recurring meeting - Adding invitees (Exchange 2003)

2.4 Usage

In this section we will show how to use the Exchange 2000 or 2003 portlet with a mobile device and synchronize PIM and data.

2.4.1 Setting up the initial synchronization tests

The Microsoft Exchange portlets also can be viewed from PocketIE in the PocketPC device. Please note that this is online access to the WEA server; the Everyplace Client is not required.

1. Make sure that the PocketPC device can access the WEA portal.
2. From the PocketPC, open a PocketIE browser, type the WEA address in the address bar, and click button to go.
3. You will see the following WEA welcome page.

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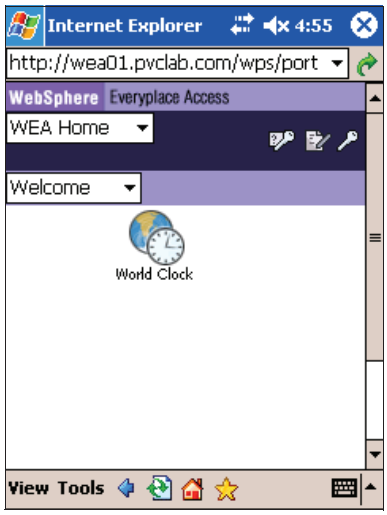


Figure 2-72 Welcome page

4. Log on as an Exchange user (for example, Terry).

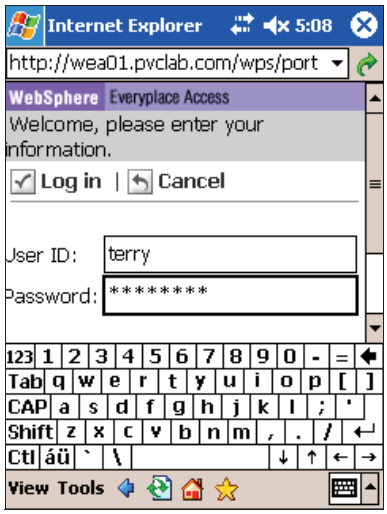


Figure 2-73 Welcome page - Entering username and password

5. The Microsoft Exchange portlets are placed in the Microsoft Exchange page. Select **Microsoft Exchange** from the drop-down list. The following page will be displayed.

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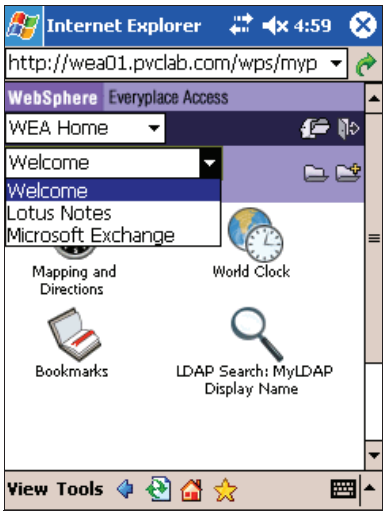


Figure 2-74 Welcome page (after login)

6. Each Microsoft Exchange portlet is displayed as an icon.



Figure 2-75 Microsoft Exchange page

7. Click each portlet icon to see the content of the portlet.

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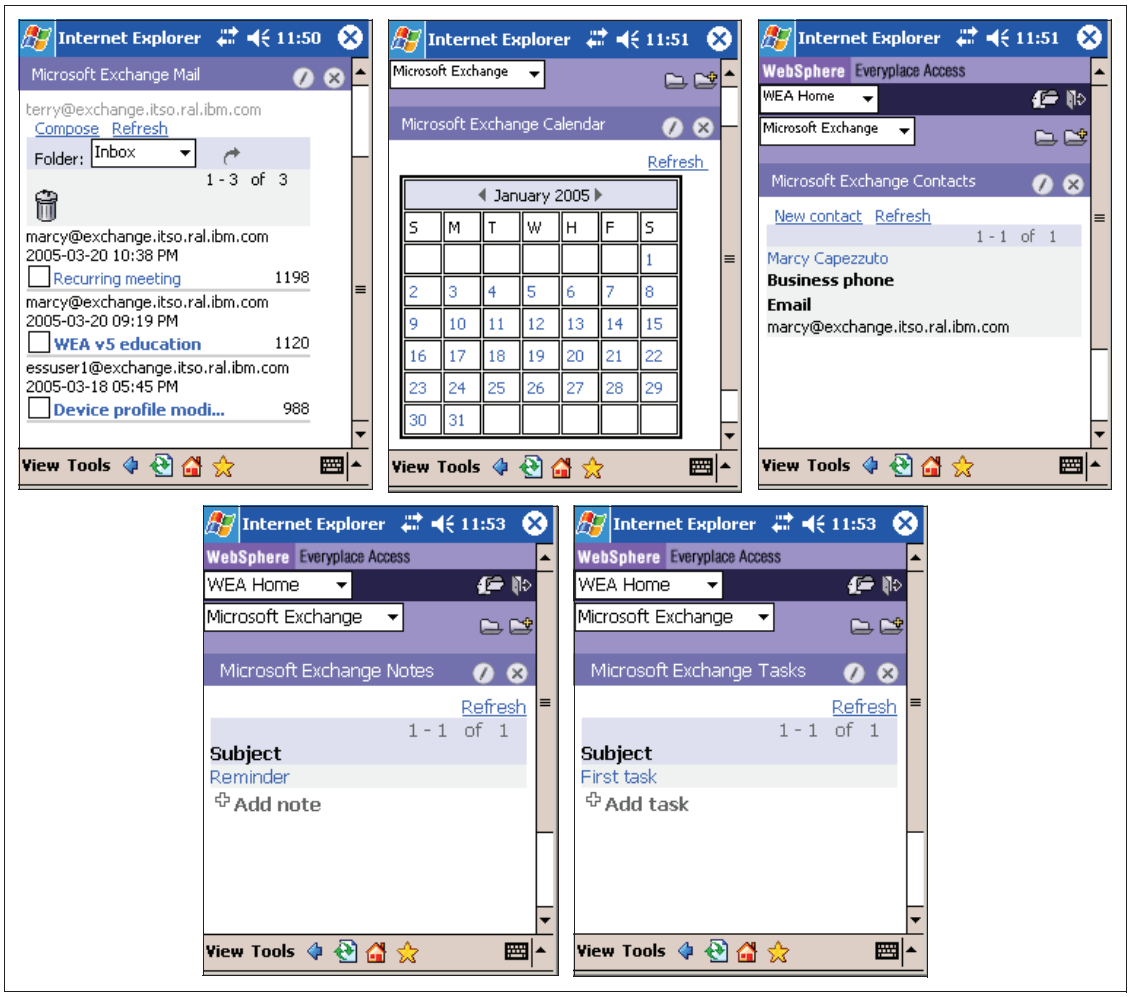


Figure 2-76 Microsoft Exchange Mail, Calendar, Contacts, Notes and Tasks

2.4.2 Synchronize e-mail and PIM data

The following steps need to be carried out with a PDA device. You will need to configure and check the settings on Everyplace Client.

Pocket PC device

The following steps are to be carried out on the PocketPC device:

1. Make sure the PocketPC device can connect to the WEA server.

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2. Log in as Terry.
3. You will see the Everyplace Client home page after login.

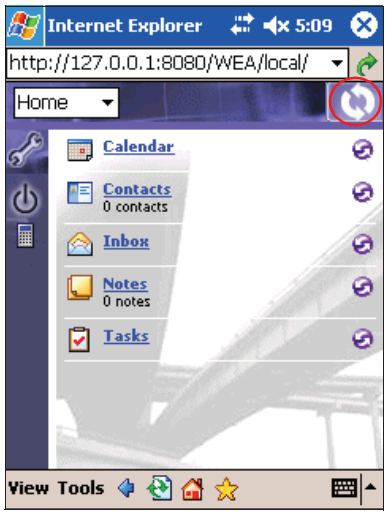


Figure 2-77 Everyplace Client home page

4. You are ready to start the initial synchronization. Click the icon at top right corner to start synchronization. If the icon is not displayed as in the figure above, check if the PocketPC device can connect to the WEA server. The Everyplace Client will display the following screen to indicate sync in progress.

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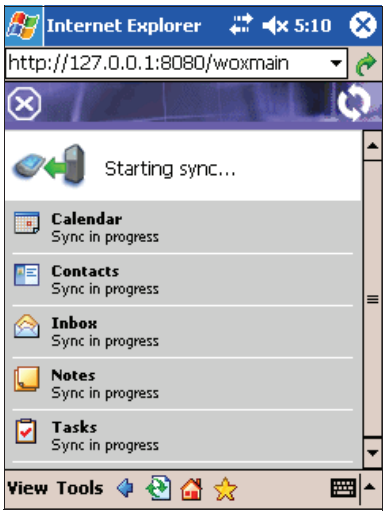


Figure 2-78 Everyplace Client - Starting sync

5. Since this is the initial synchronization, you will see the following message.

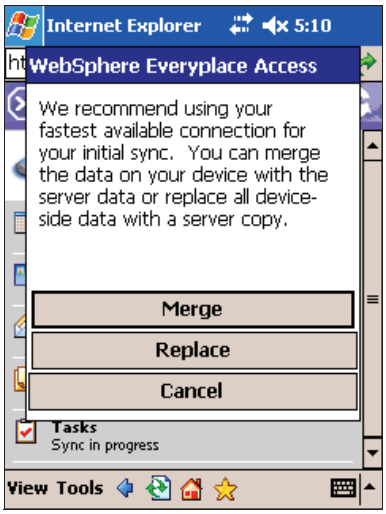


Figure 2-79 Everyplace Client - Performing sync

6. Once the synchronization finishes, the Everyplace Client will return to the home page. A green exclamation mark indicates that the item has been synchronized with the data.

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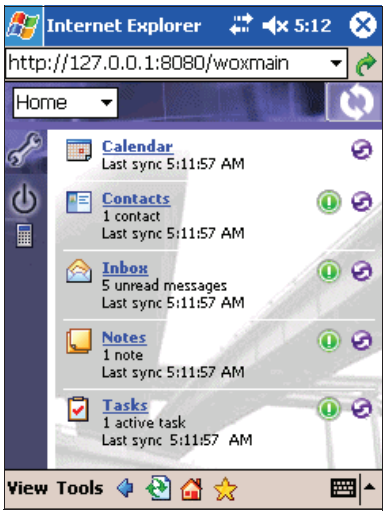


Figure 2-80 Everyplace Client home page

7. You have completed the initial synchronization.
8. The green exclamation mark next to the inbox indicates that data from the Inbox has been synchronized to the device. Click **Inbox** to view the content. You will see the following e-mails in the inbox.

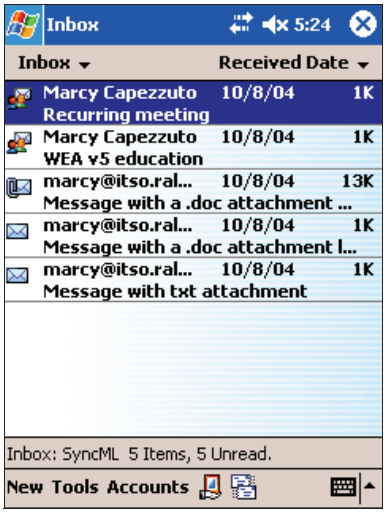


Figure 2-81 Everyplace Client - Inbox page

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9. Make sure that you are looking into the SyncML inbox, as indicated in the lower left corner of the figure. If you are not in the SyncML inbox, change to it. There will be multiple e-mails synchronized from this last synchronization process, three of which are the e-mails sent out with different attachments, the other two of which are meeting invitations.
10. Click the e-mail items to view the content. You will see the following screens. Click **OK** to close each item.



Figure 2-82 Message with a .txt attachment

Figure 2-83 shows an attachment larger than 250 KB. Note the line indicating that the attachment has been removed. The attachment size and file name are also stated in this line. The synchronization process has filtered out the attachments based on the profile settings.

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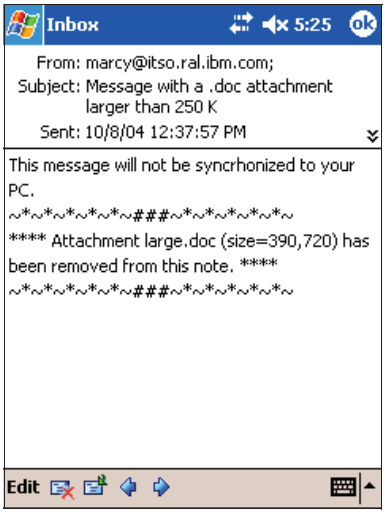


Figure 2-83 Attachment larger than 250 KB

Figure 2-84 shows an attachment smaller than 250 KB.

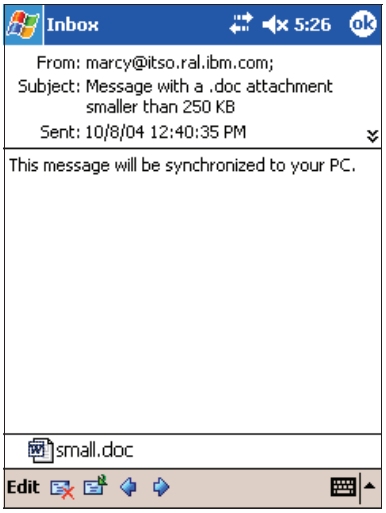


Figure 2-84 Attachment smaller than 250 KB

11. Go back to the SyncML Inbox and click the non-recurring meeting invitation. You will see the details of the meeting invitation.

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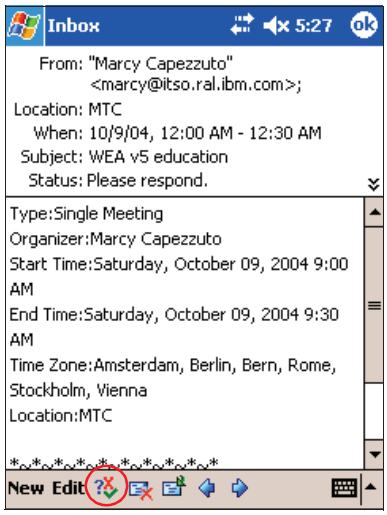


Figure 2-85 Appointment

12. You will decline this invitation. Click the icon below, near the Edit link, and select **Decline**.

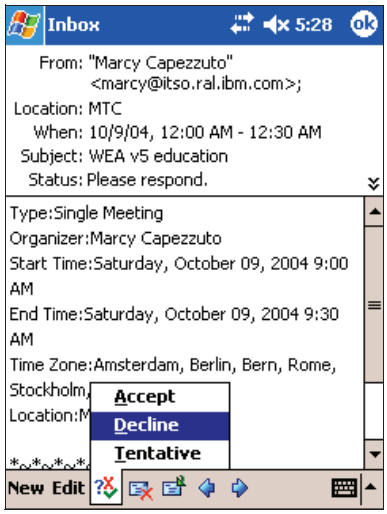


Figure 2-86 Appointment - Declining

13. A dialog will display regarding the response. Select **Send the response now** and click **OK**.

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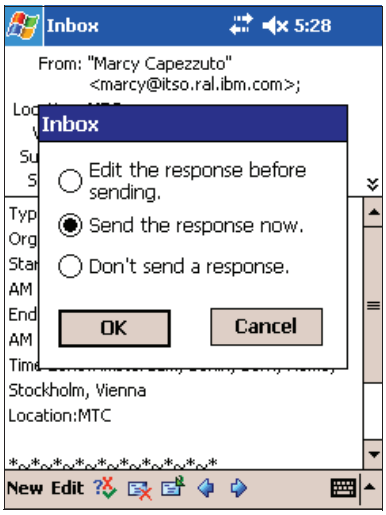


Figure 2-87 Appointment - Declining

14. The next note will appear in the window. Click **OK** to return to the Inbox.
15. Click the recurring meeting invitation.
16. You will accept this invitation. Click the icon below, near the Edit link, and select **Accept**.

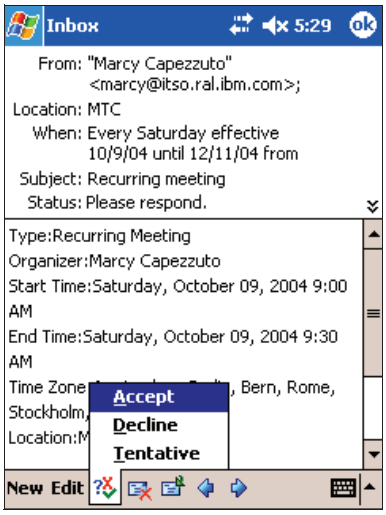


Figure 2-88 Accepting the invitation

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17. A dialog will display regarding the response. Select **Send the response now** and click **OK**.

18. Go to the calendar. The recurring meeting will be displayed in the calendar.

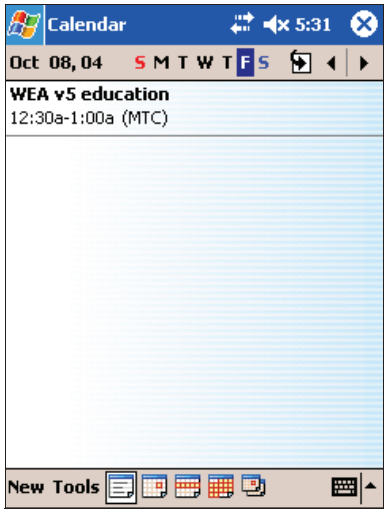


Figure 2-89 Calendar

19. Select the item to see the description.

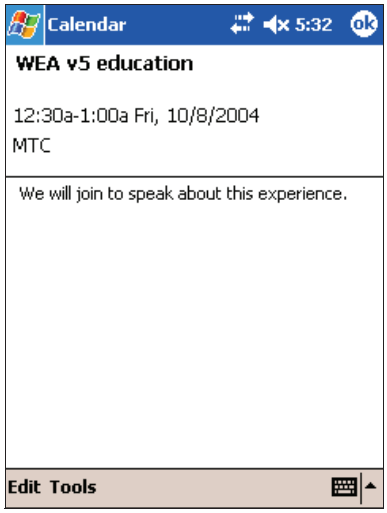


Figure 2-90 Calendar - Appointment details

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20. You can switch the Calendar view to the month view, and you will see that the calendar is marked with the recurring event.



Figure 2-91 Calendar - Month view

21. You will schedule a recurring meeting invitation from the PocketPC device. In the calendar, click **New** and fill in the following information for the entry.

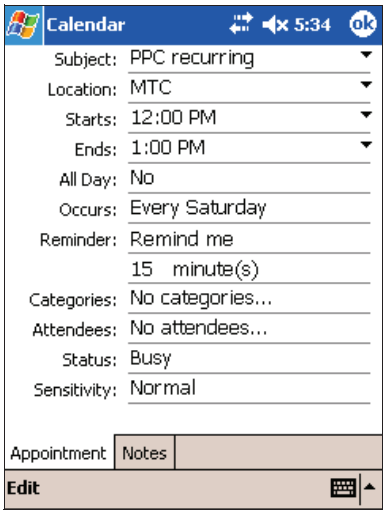


Figure 2-92 Creating a recurring meeting from PocketPC

22. Click **OK** to save the calendar entry. Close the calendar.

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23. Click the Contacts icon. You will see your contacts.

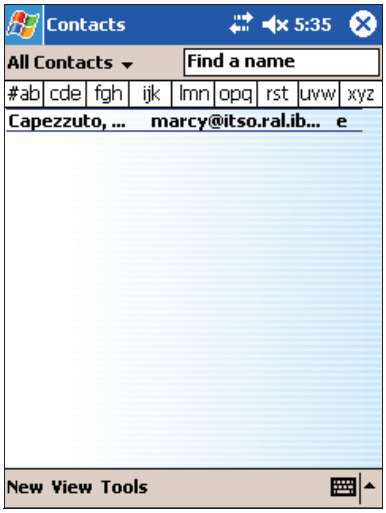


Figure 2-93 Contacts

24. Close the Contacts to return to the home page.

25. Click the Notes link. Open the Reminder note to see the details.

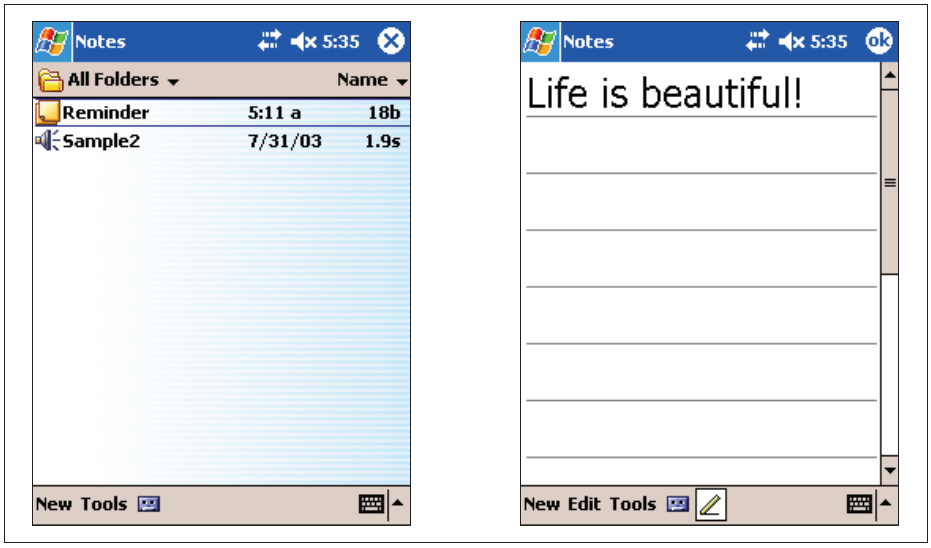


Figure 2-94 Notes

26. Select **OK** in the right top corner. Close the Notes to return to the home page.

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27. You have declined a non-recurring meeting invitation and accepted a recurring meeting invitation. You have also scheduled a recurring calendar entry from the device. On the Everyplace Client home page, you will see that you have unsent messages.

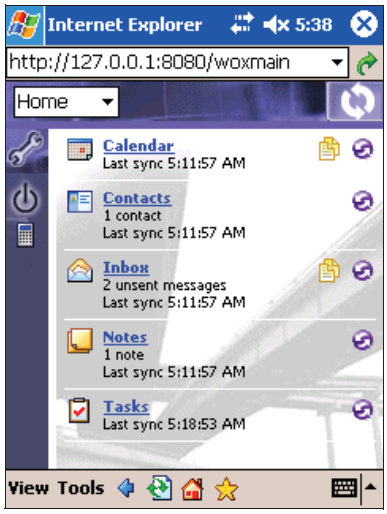


Figure 2-95 Everyplace Client home page

28. You will need to synchronize data with the Exchange server. Make sure your PocketPC device can connect to the WEA server. On the Everyplace Client home page, click the icon in the top right corner to start the synchronization. Wait for the synchronization to finish. Using Everyplace Synchronization Server, you have successfully configured and completed PIM/e-mail synchronization between the Exchange server and a PocketPC device.

Verifying synchronization

Follow these steps to verify the synchronization:

1. Open a browser and log in to WEA portal as Terry.
2. Change to the **WEA Home** → **Microsoft Exchange** page. You can see three messages, all with the complete attachment and the Calendar, with the new event.

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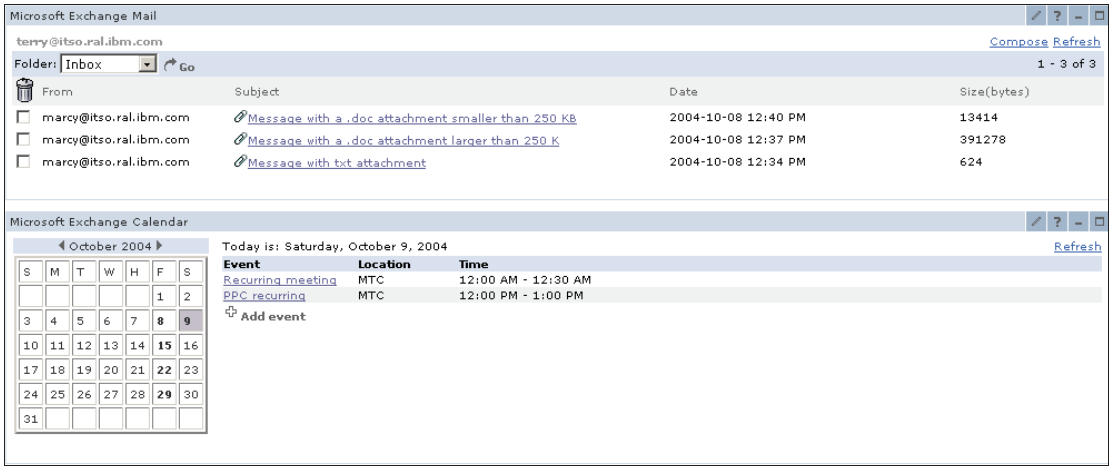


Figure 2-96 Terry's Microsoft Exchange portlet

3. Now log in to the WEA portal as Marcy.
4. Navigate to the **WEA Home** → **Microsoft Exchange** page. You will see both the accepted and the declined invitations.

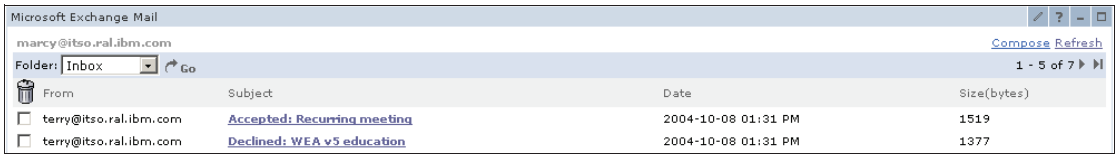


Figure 2-97 Marcy's Microsoft Exchange portlet

Palm OS device

The requirements to this section are:

- Have a properly installed Palm OS device.
- Have a properly configured e-mail user account on the device.

Note: In this sample scenario a Palm OS software V5.2.1 is used. For details about supported functions in Palm devices see *IBM WebSphere Everyplace Access V5 Handbook for Developers and Administrators Volume I: Installation and Administration,* SG24-6462.

Follow these steps on your Palm OS device:

1. Click the IBM WEA icon.

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Figure 2-98 Main menu

2. Click the **Synchronize** button in the middle of the window.



Figure 2-99 SyncML Client

3. You will see the synchronization progress.

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Figure 2-100 Synchronization

4. After synchronization is complete, you should see a Sync Complete message. Click **Done**.
5. Click the **Home** button to return to the Applications page.
6. We will start by examining the address book. Click **Phone** and then move the arrow down to select **Contacts**. Open a contact by clicking it. You should now be able to see the details of the new contact. Click **Done**.



Figure 2-101 Address book - Contact details for new contact

7. Click the **VersaMail** button.

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Figure 2-102 VersaMail start icon

8. You will be taken to the inbox of your ESS user.



Figure 2-103 Terry's e-mail inbox

9. Select the e-mail with the subject `Message with a .doc attachment larger than 250KB`.

   You will see a message in the e-mail body indicating that the attachment was removed because it was greater than 250 KB as defined in our default device profile.

10. Go back to the inbox and open then the e-mail with the subject `Message with a .txt attachment`. Again you will see that the attachment was removed because it did not have a .doc extension.

11. Go back to the inbox and open the e-mail with the subject `Message with a .doc attachment less than 250 KB`. This time, you will notice that the attachment was not removed because it met the criteria of being less than 250 KB and having a .doc extension.

12. You can also open the attachment by selecting the paper clip in the top-right corner. Click **View** on the message that comes up. You will see the attachment in a Microsoft Word Viewer.

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13. Go back to the inbox and open the invitation e-mail. Select the paper clip in the top-right corner.



Figure 2-104 Attachments details

14. Click **View** to see the meeting details.



Figure 2-105 Invitation meeting details

15. Click **Accept** to accept the invitation and add it to the calendar.
16. Go back to the inbox and open the other invitation e-mail.

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Figure 2-106 Recurring meeting invitation

17. Select the paper clip in the top-right corner. In the dialog box, click **View** to see the meeting details. Click **Decline**.

18. Now select **Home** and click the Calendar icon.

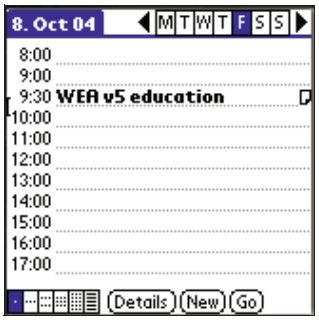


Figure 2-107 Calendar

19. You have one meeting today. Select it to see the details.



Figure 2-108 Calendar - Meeting details

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20. Click **Applications** to return to the Applications page.

21. Click **To Do List**.



Figure 2-109 ToDo list

22. Select it to see the details.



Figure 2-110 ToDo list - Details

23. Select the Memo icon. You will see the Reminder memo.



Figure 2-111 Memo

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24. Select the Reminder memo to see the details.



Figure 2-112 Memo details

25. Click **Applications** to return to the Applications page.
26. We will now create an e-mail note and send it to another user. Click **VersaMail**.
27. Click **New**.
28. Enter details as shown below.



Figure 2-113 New message

29. Click **Outbox**.
30. Go to the Outbox folder to check the mail that is ready to be sent. You will also see the accepted and the declined meetings mails.

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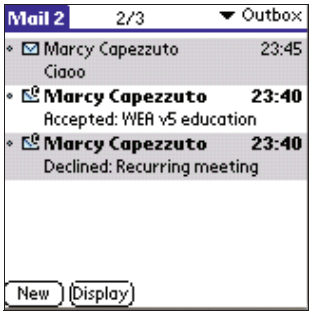


Figure 2-114 Outbox folder

31. Click **Applications** to return to the Applications page.
32. Click **SyncML** and initiate a synchronization. During synchronization, the message will be sent to the intended recipient.

Verifying synchronization

We now need to verify the synchronization by checking that e-mail notes sent from the client devices reached their intended recipients. In our examples, all e-mail notes sent from the client device were intended for Marcy. We will therefore check Marcy's inbox.

1. Log in to the Everyplace Access portal using Marcy's user ID and password.
2. Go to the **Microsoft Exchange** section (we have already configured the portlets for this user. Otherwise, we could use the Exchange Web access).

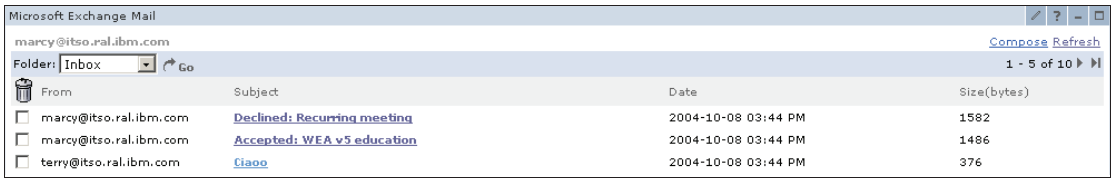


Figure 2-115 Inbox of Marcy

3. You should see the e-mail notes from Terry.

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2.5 Hints and tips

In this section we review hints and tips.

2.5.1 Troubleshooting

There are many things that can go wrong when configuring ESS with Lotus Domino. A good source of information on what to look for is the Troubleshooting section in the InfoCenter, which can be accessed by selecting **IBM WebSphere Everyplace Access Getting Started Guide** → **Everyplace Synchronization Server** → **Troubleshooting**.

2.5.2 Log files

If you have carefully followed the instructions and still cannot get synchronization to work on your WebSphere Everyplace Access server, you may want to start looking at the log files. Log files are a great source of information on what happened or what went wrong during runtime. For descriptions of log files and how to use them, select the Troubleshooting section in the InfoCenter, which can be accessed by selecting **IBM WebSphere Everyplace Access Getting Started Guide** → **Everyplace Synchronization Server** → **Logging**.

2.5.3 Tuning

If you find that synchronization is taking a long time, there are a few things that can be done to improve the performance of the Synchronization Server. Select **IBM WebSphere Everyplace Access Getting Started Guide** → **Everyplace Synchronization Server** → **Tuning** for more information on optimizing your server.

2.5.4 Order does matter

It needs to be emphasized that the order in which you install your software components does matter. It is paramount that the local Lotus Notes client is installed and *configured* with the Adapter Admin user before installing the Everyplace Synchronization Server. Failure to do this may result in the Synchronization Server failing to connect to the Lotus Domino Server.

2.6 Resources

The WebSphere Everyplace Access InfoCenter provides fast, centralized access to information to help you install and configure WebSphere Everyplace Access. It

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comes bundled with WebSphere Everyplace Access and, after installation, it can be accessed by selecting **Start** → **Programs** → **IBM WebSphere** → **Everyplace Access** → **Start InfoCenter**. Alternatively, it can be accessed at:

`http://publib.boulder.ibm.com/infocenter/weahelp/index.jsp`

The WebSphere Everyplace Access support site is a great place to find information about:

- Bug fixes and updates to software
- Updates to documentation
- Hints and tips
- Solutions to specific problems

The support site can be accessed at:

`http://www-306.ibm.com/software/pervasive/ws_everyplace_access/support/`

The internal Hint and Tips page can be accessed at:

`https://ldbdcf1.lotus.com/software/support.nsf/site/websphere+everyplace+access`

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3

Synchronizing with DB2 databases

This chapter describes the configuration steps necessary to carry out DB2 Everyplace Synchronization with back-end DB2 databases. The following topics are covered:

- Overview
- DB2 Everyplace Synchronization Server configuration
- Everyplace Client configuration
- Sample application scenario
- Synchronize with remote databases
- Hints and tips

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3.1 Architecture overview

The diagram shown in Figure 3-1 depicts the relational database synchronization environment for JDBC subscription types.

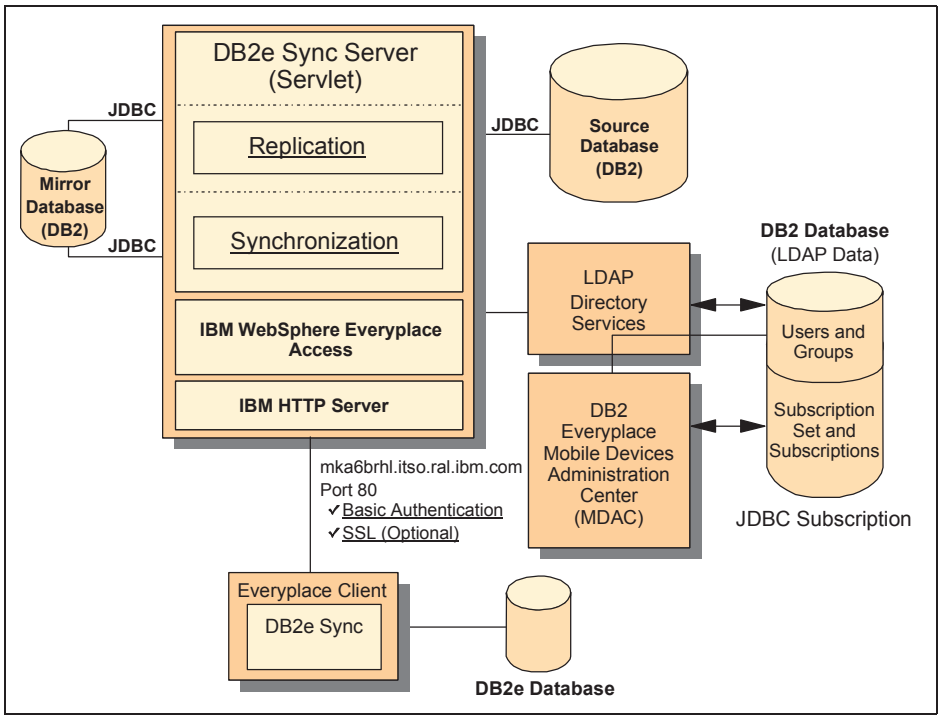


Figure 3-1 DB2 Everyplace synchronization for JDBC subscriptions

A DB2 Everyplace supported device sits on the IBM Everyplace Client, which is the unified client for PIM and relational database synchronization.

On the server side, IBM HTTP Server handles incoming HTTP requests, and passes those destined for WebSphere Application Server via a plug-in. WebSphere Portal rides on top of the WebSphere Application Server. It provides administration portlets to manage portlets, as well as users and groups.

User and group information is stored within LDAP. Users and group information is accessed by the DB2 Everyplace server through Everyplace Access Services, specifically through the User and Group service.

Note: The User and Group Web service is deployed into the WebSphere_Portal application server instance.

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Also on the server, DB2 Everyplace periodically replicates the back-end databases to mirror databases; this process for JDBC subscription type is also illustrated in Figure 3-1. DB2 Everyplace Mobile Devices Administration Center (MDAC), together with WebSphere Portal, provides the complete administration functionalities for DB2 Everyplace Synchronization Server. MDAC stores its configuration information in a DB2 database (DSYCTLDB).

When synchronization is initiated at the client, the device sends the request to IBM HTTP Server, optionally through SSL. The user is authenticated against the user registry in LDAP. Once the user is authenticated, the DB2 Everyplace Synchronization Server is invoked and data synchronization is carried out between the client and the mirror databases.

3.1.1 DB2 Everyplace

DB2 Everyplace consists of two main components:

- DB2 Everyplace database
- DB2 Everyplace Synchronization Server

DB2 Everyplace is the database engine installed on the mobile device. DB2 Everyplace Synchronization Server carries out bi-directional synchronization of data between the database on the mobile device and the source database on the server.

For synchronization of the relational database from the server to the mobile device, the selected data is replicated periodically to a mirror (or mid-tier) database, which acts as a temporary repository for the data. A subset of the mirror data is moved to the database on the mobile device. On the other hand, for synchronization from the mobile device to the server, data is also moved into the mirror database first, then gets replicated to the server periodically.

DB2 Everyplace synchronization is controlled by DB2 Everyplace Synchronization Server, which has been added to WebSphere Everyplace Access solution.

In order to set up synchronization, the following entities must be defined beforehand:

- Group
- User
- Subscription
- Subscription set

A user must belong to a group. A subscription must belong to at least one subscription set. A group subscribes to one or more subscription sets for data synchronization.

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3.1.2 IBM Everyplace Client

IBM Everyplace Client is a unified client application package for personal digital assistants (PDAs). Everyplace Client provides a common interface that supports synchronization, security, device management, offline Portal content, offline Domino applications, and DB2 Everyplace database synchronization.

Note: For Palm devices almost all the functionality of Everyplace Client is provided in separate applications.

3.1.3 DB2 Everyplace Synchronization Server

DB2 Everyplace Synchronization Server has been integrated into WebSphere Everyplace Access as a separate application server named IBMDB2eServer. The service is deployed in the application server as a J2EE Enterprise Application containing several servlets.

DB2 Everyplace Synchronization Server is HTTP based. Mobile devices can establish either a wireless or wired connection to synchronize data over the Internet, a wireless network, intranet, local area network (LAN), or wide area network (WAN).

3.2 Before you start

Before you start configuring and testing relational database synchronization, it is important to make sure that IBM DB2 Everyplace Server (IBMDB2eServer) and Everyplace Access Services server are running without error. Do the following:

1. Open a command line window. Navigate to *WebSphere_Install_Dir*\AppServer\bin and enter the following command:

   ```
   serverStatus -all -user <was_admin_user> -password <was_admin_password>
   ```

   Where *<was_admin_user>* is the Admin server user (wpsbind by default) and *<was_admin_pass>* is the password for that user. Verify that at least the Portal and DB2 Everyplace servers have been started, as shown in Figure 3-2 on page 211.

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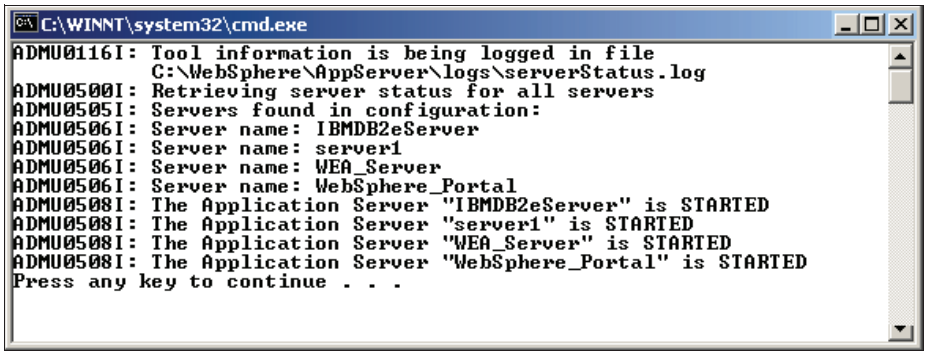


Figure 3-2 Verifying the server's status

2. To verify that the DB2 Everyplace Synchronization service is running, open a browser and type the following into the address box:

   `http://db2e_server_hostname/db2e/db2erdb`

   Enter the login information when prompted. In this case you can use the WEA administrator user. You should see the page shown in Figure 3-3 on page 211, which displays information about the sync service.

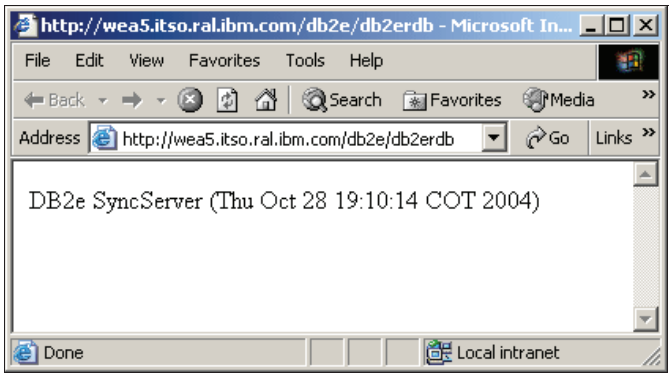


Figure 3-3 DB2 Everyplace Synchronization service

If you see this page, you are ready to proceed.

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3. If this page is not shown, check the following:
   a. Verify that the servers had been started.
   b. Review the log files for DB2 Everyplace server, located by default at *WebSphere_Install_Dir*\DB2Everyplace\Server\logs\IBMDB2eServer directory.

3.3 Server configuration

For relational database synchronization, the server configuration and management activities are handled in two places. User and group management is done in WebSphere Portal, while subscription and subscription sets are managed by the Mobile Devices Administration Center (MDAC).

3.3.1 Creating users and groups

DB2 Everyplace supports multiple synchronization groups. Synchronization groups must be created using WebSphere Portal's administration portlets. A user must be a member of a synchronization group in order to synchronize with the DB2 Everyplace Synchronization Server. When these synchronization groups are in use, their names are stored in the file DSYLDAP.properties, located at:

`WSe_Install_Dir\DB2Everyplace\Server\properties\com\ibm\mobileservices`

under the key "SYNCGROUP".

To use the relational database adapter, a special user and group configuration is required:

- Each group must have a prefix of DB2e (case-sensitive), such as *DB2e_myemployees*.
- DB2e groups should not be members of any synchronization group defined in the DSYLDAP.properties file.
- Relational Database synchronization users must be a member of one of the synchronization groups defined in the DSYLDAP.properties file.
- Relational Database synchronization users must also be a member of one group that begins with DB2e.
- Relational Database synchronization users can belong to only one DB2e group, but the user may belong to other groups in the Portal environment, including other synchronization groups.

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The following steps demonstrate how to create groups and users for relational database synchronization:

1. To create a synchronization group:
   c. Log in to the WebSphere Everyplace Access server as an administrator, for example, wpsadmin.
   d. Select the **Administration** label.
   e. Select the **Access -> Users and Groups** option.
   f. Click **New Group**. Enter `SyncGroup` as the group name, as shown in Figure 3-4 on page 213. Click **OK**.

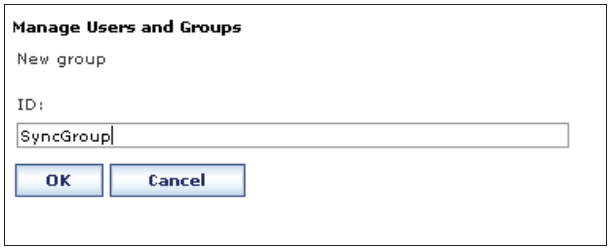


Figure 3-4 Create synchronization group

   The group should be created, and a message like `User group created successfully!` should appear.
   g. Follow similar steps to create more synchronization groups.

Important: The IBM DB2 Everyplace Server uses the group “SyncGroup” by default. If you choose to use a different name, for example, “AllSyncUsers”, you will need to start up MDAC using your synchronization group, and then restart the IBM DB2 Everyplace server.

The group name can be confirmed by looking at the last line of the following file:

WebSphere_Install_Dir\DB2Everyplace\Server\properties\com\ibm\mobileservices\DSYLDAP.properties

For example:

```
SYNCGROUP=AllSyncUsers
```

We recommend having a parent synchronization group that contains all synchronization users, and to use this group when starting MDAC.

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After creating the desired synchronization groups, users who are expected to synchronize with the databases must be added to the synchronization groups.

2. To add users to synchronization group(s):
   a. Log in to the WebSphere Everyplace Access server as an administrator, for example, wpsadmin.
   b. Select the **Administration** label.
   c. Select **Access -> Users and Groups**.
   d. Search to find the synchronization group.

      Tip: Use the *cn* attribute when searching for groups.

   e. Click the group name.
   f. Click **Add member**.
   g. Use the Search on field to search for users or groups.

      Tip: Use the *uid* attribute when searching for users.

   h. Select the users to add from the Search Results field.
   i. Click **OK**.

   You should see the new member added to the group.

   As mentioned earlier, relational database synchronization users must belong to both synchronization groups and DB2e groups (relational database adapter group).

3. To create a relational database adapter group:
   a. Log in to the WebSphere Everyplace Access server as an administrator, for example, wpsadmin.
   b. Select the **Administration** label.
   c. Select **Access -> Users and Groups**.
   d. Click **New Group**.
   e. Enter a group name like DB2e_Employees.

   Note: By default the group name must begin with DB2e (case sensitive). You can change the user prefix in the DSYLDAP.properties file mentioned earlier, under the GROUP_PREFIX key.

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f. Click **OK**.

> **Tip:** After adding or removing users to a DB2e group, we recommend resetting that user in MDAC.

4. To add users to relational database adapter groups:
   a. Log in to the WebSphere Everyplace Access server as an administrator, for example, wpsadmin.
   b. Select the **Administration** label.
   c. Select **Access -> Users and Groups**.
   d. Search to find the relational database adapter group.

      > **Tip:** Use the *cn* attribute when searching for groups.

   e. Click the group name.
   f. Click **Add member**.
   g. Use the Search on field to search for users or groups.

      > **Tip:** Use the *uid* attribute when searching for users.

   h. Select the users to add from the Search Results field.
   i. Click **OK**.
   j. You should see the new member added to the group.

> **Note:** For relational database synchronization to work, users must exist in both synchronization groups and one relational database adapter group.

3.3.2 Creating subscription and subscription set

Synchronization-related information for a relational database is defined as a subscription. Subscriptions are grouped into subscription sets that the user groups can subscribe to. We have our users and groups, so now we must define

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the necessary subscriptions and subscription sets to make the synchronization work.

1. To create a subscription:

   a. Click **Start -> Programs -> IBM DB2 Everyplace -> Start Mobile Device Administration Center**.

      The DB2 Control Center automatically opens. As the MDAC retrieves the users and groups information from LDAP, a WebSphere Portal Server LDAP Logon window pops up and asks for the necessary information to retrieve data from LDAP (see Figure 3-5 on page 216).

      Note: The Mobile Devices Administration Center starts the DB2 Control Center when starting. Therefore you may be prompted for a DB2 administrator ID and password the first time you launch the Mobile Devices Administration Center. This is most likely to occur when the WebSphere Application Server database is configured as a remote database. You can enter the login information, or cancel the dialog until it disappears.

      Enter the LDAP administrator's user name and password, and specify the synchronization groups defined through WebSphere Portal Server. We suggest having a parent group that contains all synchronization users. However, multiple synchronization groups may be entered, separated by semicolons. Click **OK**.

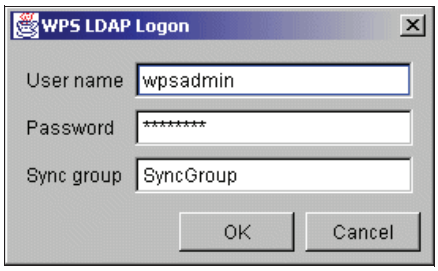


Figure 3-5 WebSphere Portal Server LDAP Logon window

Note: The Sync group name is case sensitive.

If you are using DB2 V8 as your database server you will see a warning message, as shown in Figure 3-6 on page 217. MDAC has been built on the DB2 V7 Control Center, so all the Control Center functions not related to DB2 Everyplace will be disabled. Click **Close**.

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Figure 3-6 Warning about the DB2 MDAC support

Maybe you will also see a message about performing a check on existing JBDC subscriptions for needed indexes. If this is the first time you use the MDAC after installation, there are no subscriptions to analyze. So for this time click **No** or **Ask again later**.

The Mobile Devices Administration Center launches.

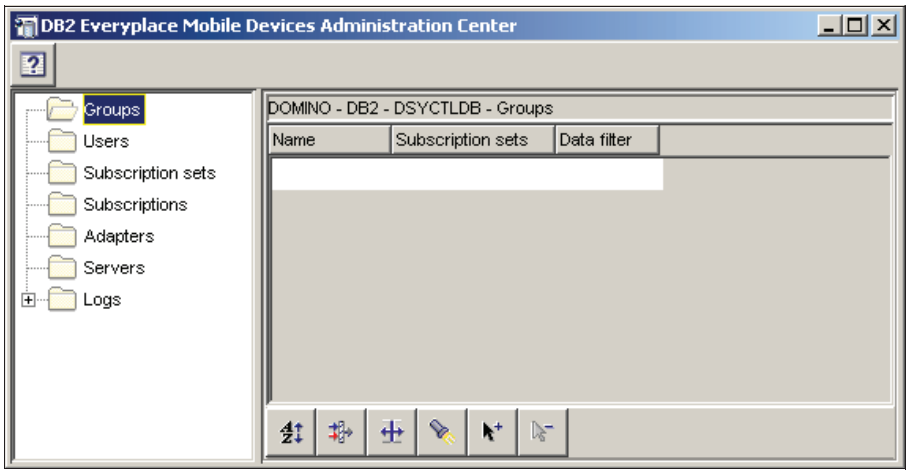


Figure 3-7 Mobile Device Administration Center

b. Click the **Groups** and **Users** folders to check that the DB2e groups and users are imported into the MDAC.

c. Right-click **Subscription -> Create -> Table Subscription -> JDBC Subscription**.

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Note: JDBC Subscription is used in this scenario. Other types of subscriptions will be covered in later sections.

The Create JDBC Subscription wizard opens.

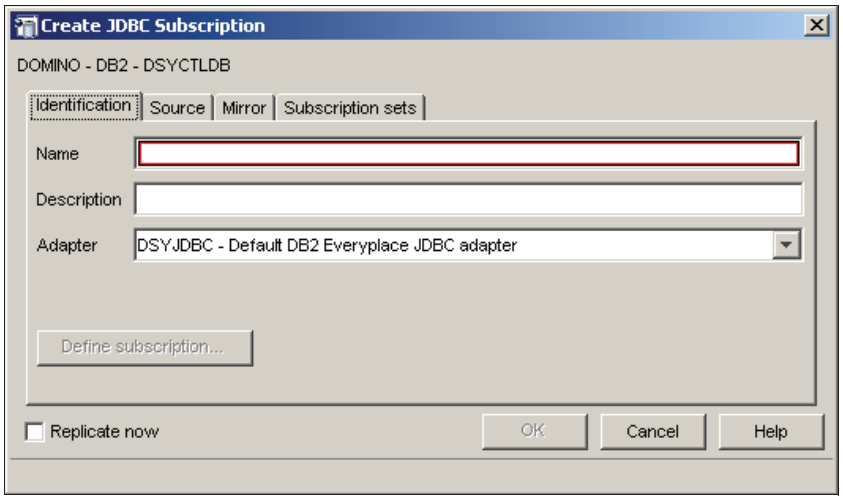


Figure 3-8 Create JDBC Subscription wizard

d. Enter the name of the subscription and, optionally, a description. Click the **Source** tab.

e. On the Source tab, the source database information should be provided.

   i. In the Database URL field, enter the source database URL, for example, jdbc:db2:VNURSE. Or you can also use the **...** button beside this field to browse and choose the source database (only for DB2 databases).

   ii. In the Driver field, use the down arrow to choose the desired JDBC driver from the list.

   iii. In the User ID field, provide the user ID that can be used to access this database.

   iv. In the Password and Verify Password fields, enter the password.

   v. You can click **Test Connection** to verify the connection to the database.

   Figure 3-9 on page 219 shows the source database configured.

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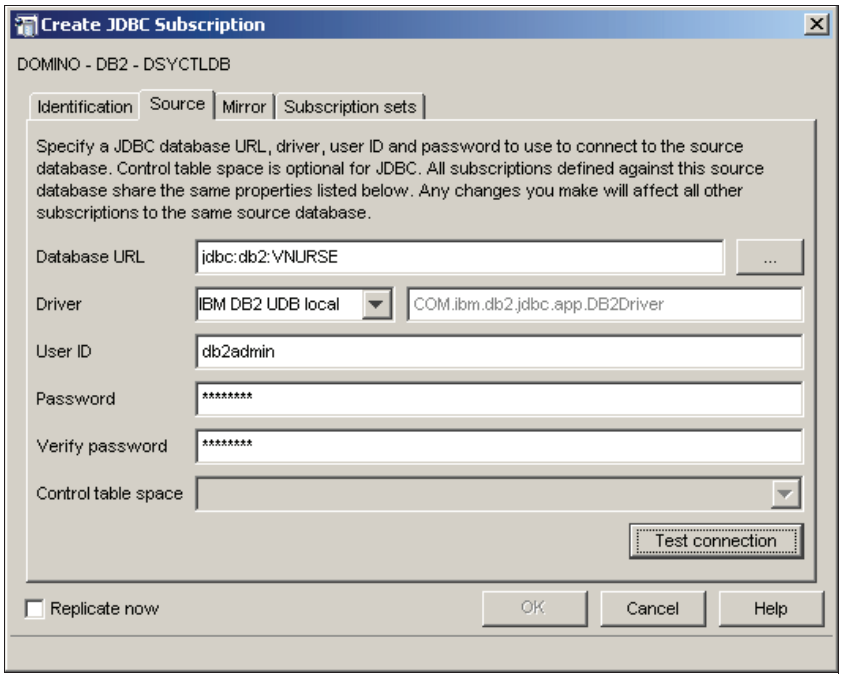


Figure 3-9 Create JDBC Subscription - Define source database

f. When done, click the **Mirror** tab.

   In this tab, the mirror database information should be provided.

   i. In the Database URL field, enter the mirror database URL, for example, jdbc:db2:M_VNURSE. Or you can also use the ... button beside this field to browse and choose the source database.

   ii. In the User ID field, provide the user ID that can be used to access this database.

   iii. In the Password and Verify Password fields, enter the password.

   iv. You can click **Test Connection** to verify connection to the database.

   v. When done, click the **Identification** tab.

   Figure 3-10 on page 220 shows the configured mirror database.

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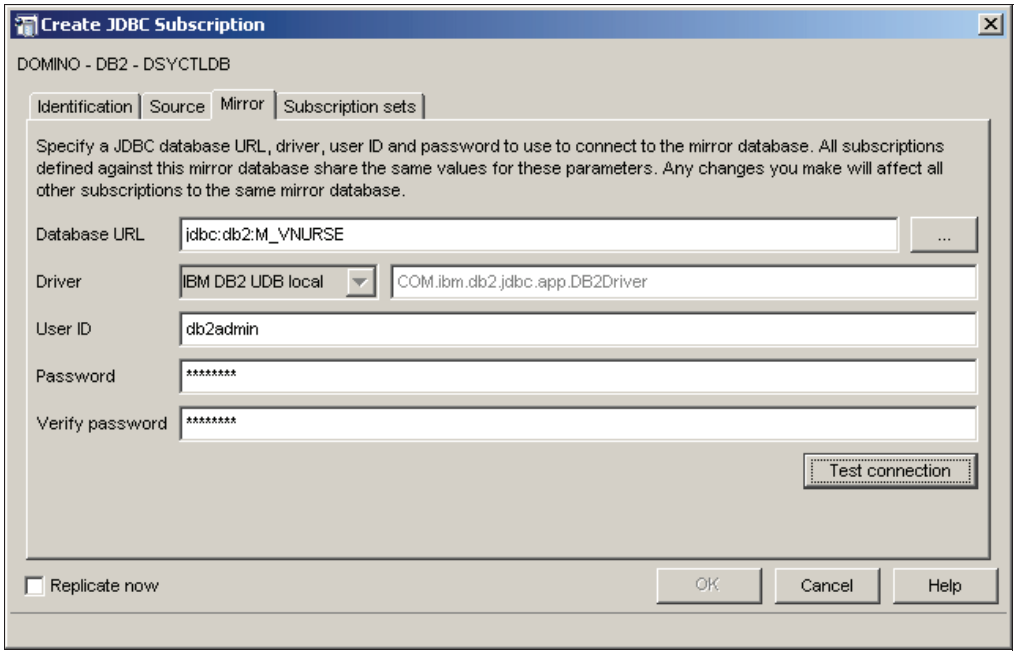


Figure 3-10 Create JDBC Subscription - Define mirror database

g. On the Identification tab, click the **Define subscription** button.

i. The Define Replication Subscription window is shown. Click **Add**.

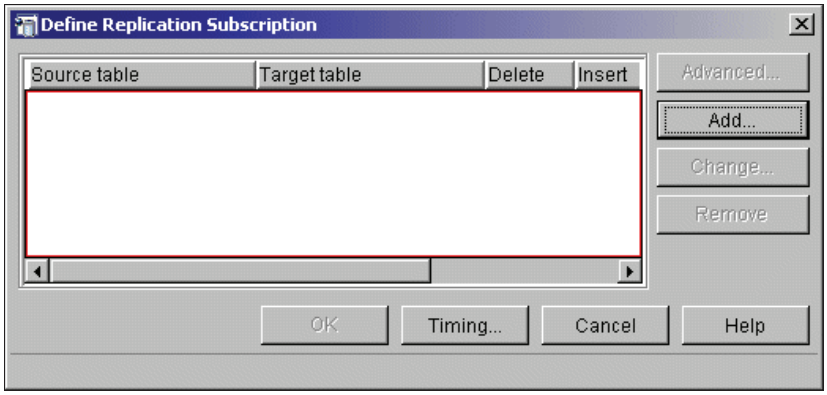


Figure 3-11 Create JDBC Subscription - Define subscription

ii. The Add Table window is displayed.

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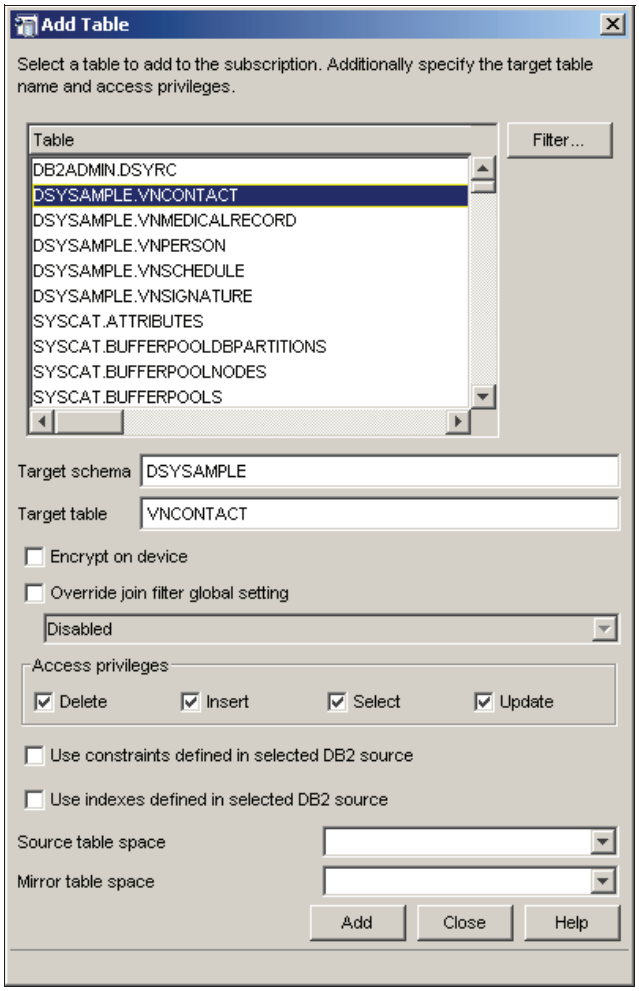


Figure 3-12 Create JDBC Subscription - Define subscription - Add table

iii. Select the table to be synchronized. The Target schema and Target table fields are filled in automatically; accept the default or change it to something desirable.

iv. Click the appropriate access privileges. Click **Add**.

v. If there is more than one table to be synchronized, select more tables to add. When done, click **Close**.

The tables have been added to the subscription now.

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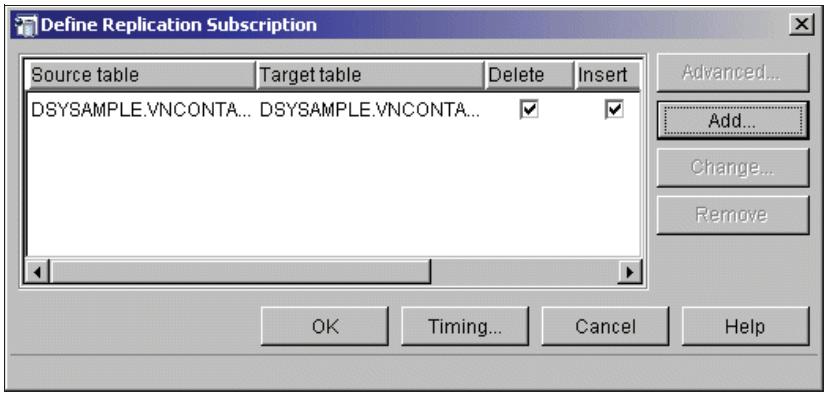


Figure 3-13 Create JDBC Subscription - Define subscription

vi. Click the **Timing** button to adjust the replication frequency.

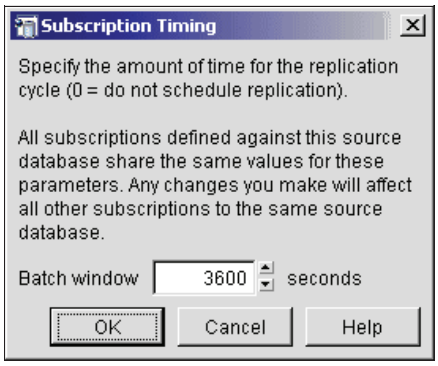


Figure 3-14 Adjust replication frequency

vii. Click **OK** and **OK** to return to the Create JDBC Subscription wizard.

h. Click the **Subscription sets** tab.

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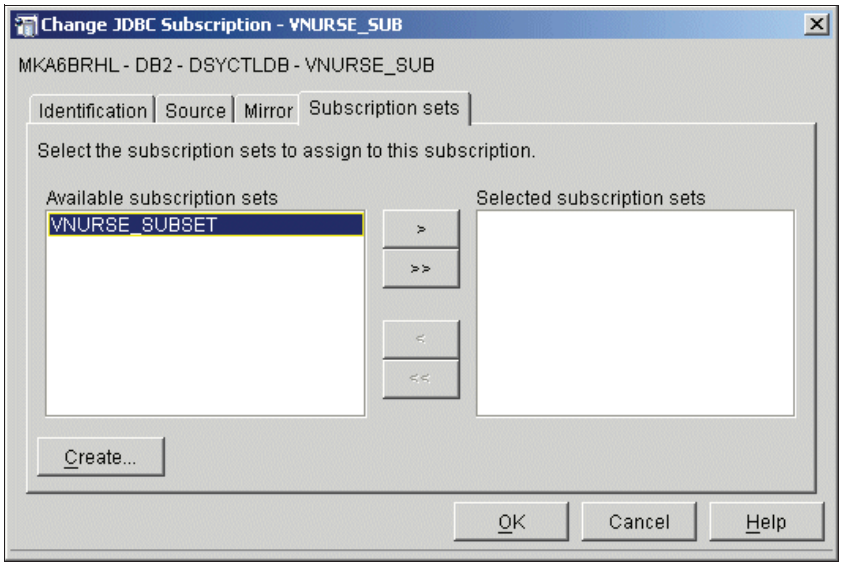


Figure 3-15 Create JDBC subscription - Define subscription set

i. Choose from the available subscription sets in the left pane and click **>** to put it into the right pane. The subscription sets shown in the right pane will include this newly created subscription.

ii. You can also choose to create a new subscription set by clicking the **Create** button. The Create Subscription Set wizard will be covered later.

i. Now all the information has been gathered for the subscription. Click **OK**.

j. The new subscription should appear in the right pane when clicking the **Subscriptions** folder. It can always be altered by right-clicking the subscription and choosing **Edit**.

2. To create a subscription set:

   a. With MDAC open, right-click **Subscription sets -> Create**.

      The Create Subscription Set wizard opens.

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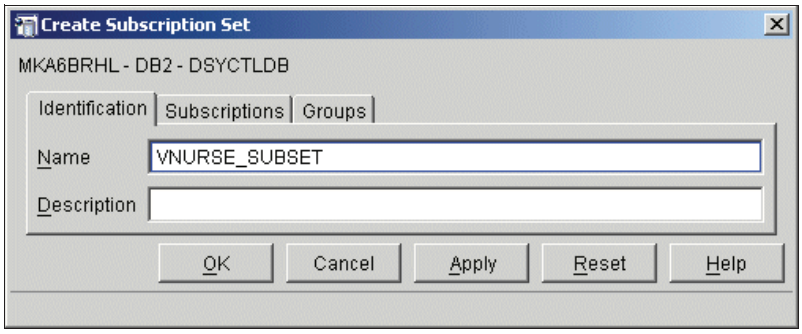


Figure 3-16 Create Subscription Set wizard

b. On the Identification tab, enter the name and description for this subscription set. Click the **Subscriptions** tab.

c. Choose from the available subscriptions in the left pane and click **>** to include it in this subscription set, or click **>>** to choose all.

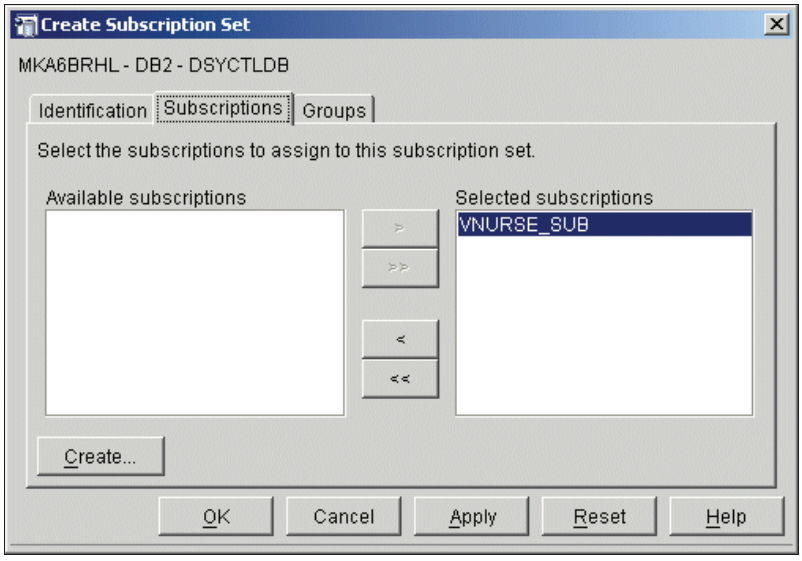


Figure 3-17 Create Subscription Set - Select subscription to include

d. You can also click the **Create** button to create a new subscription, following the steps described in the previous section.

e. When done, click the **Groups** tab.

f. Choose from the available groups in the left pane and click **>** to subscribe it to this subscription set, or click **>>** to select all of the groups.

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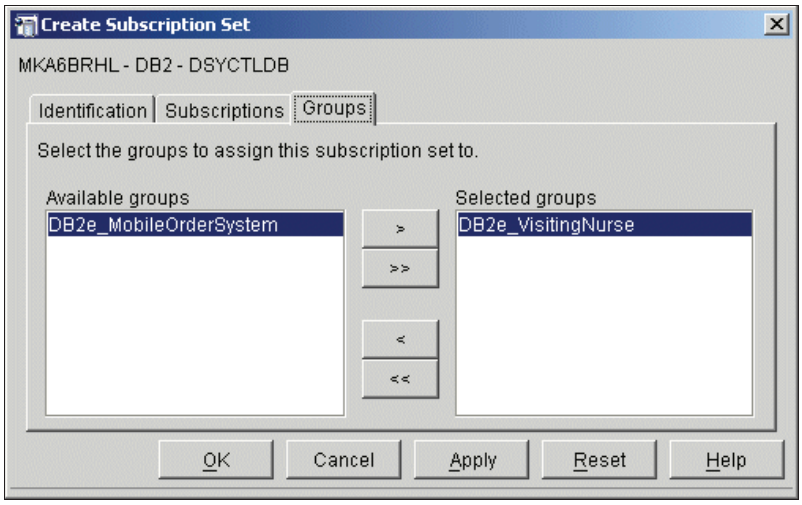


Figure 3-18 Create Subscription Set - Select groups

g. Enough information has been collected to create a subscription set. Click **OK**.

h. The newly created subscription set should appear in the right pane of MDAC when clicking the **Subscription sets** folder. It can be easily modified or examined by right-clicking the subscription set and choosing **Edit**.

i. Now click the **Groups** folder. In the right pane, for each group, the number appearing in the Subscription sets column indicates the number of subscription sets this group is subscribing to.

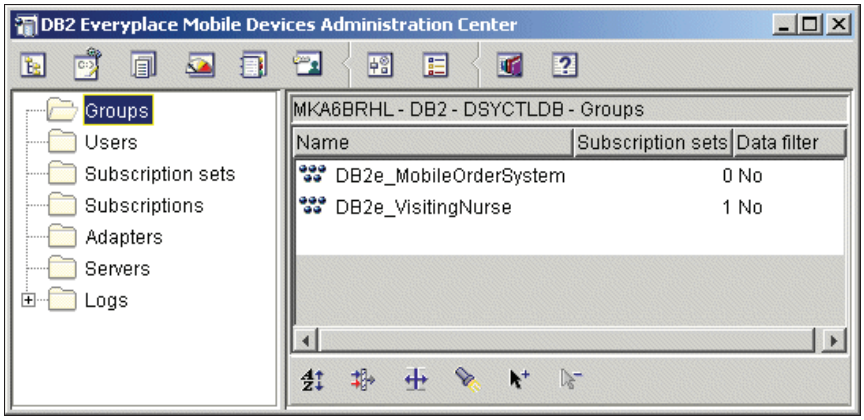


Figure 3-19 MDAC - Groups

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The association with the subscription sets can be easily changed by right-clicking the group and choosing **Edit**. Select or deselect subscription sets in the Subscription sets tab.

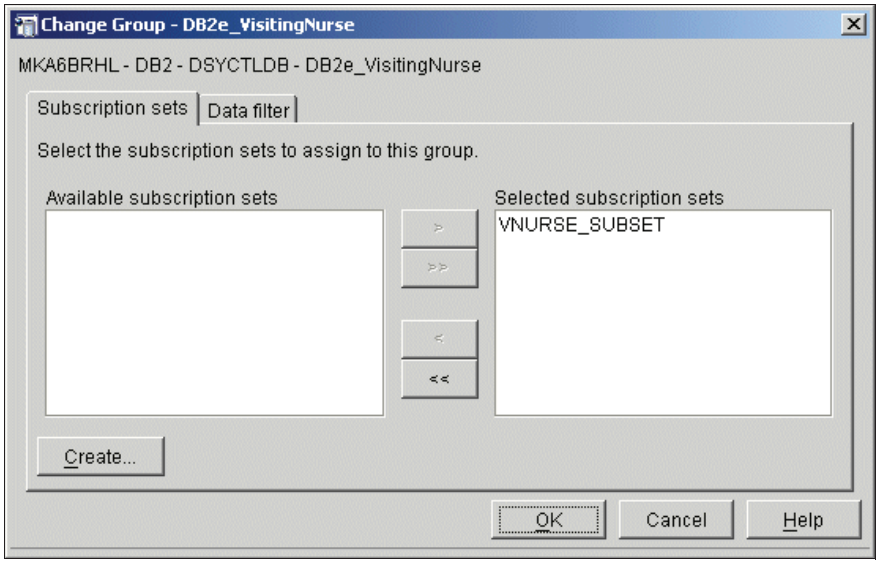


Figure 3-20 MDAC - Groups - Change subscription sets

3.4 Binding LDAP and MDAC

As discussed in previous sections, users and groups are created in WebSphere Portal and maintained in LDAP. The Mobile Devices Administration Center or MDAC retrieves this information from LDAP and keeps a copy in its control database DSYCTLDB.

In MDAC, it is possible to refresh this binding if any changes take place in WebSphere Portal.

- To refresh group information, right-click the **Groups** folder and select **Refresh WPS LDAP groups**.
- To refresh user information, right-click the **Users** folder and select **Refresh WPS LDAP users**.

By doing the refreshing, if new users or groups are added, they will be brought into the MDAC and its control database.

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If any user is removed from the sync group in WebSphere Portal, upon refreshing the LDAP users, MDAC will warn you of the inconsistency and prompt you to delete the user from MDAC's control database.

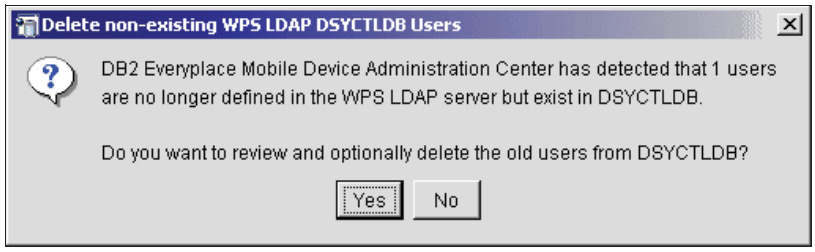


Figure 3-21 MDAC prompts for inconsistency in user information

Click **Yes** to delete the user from MDAC.

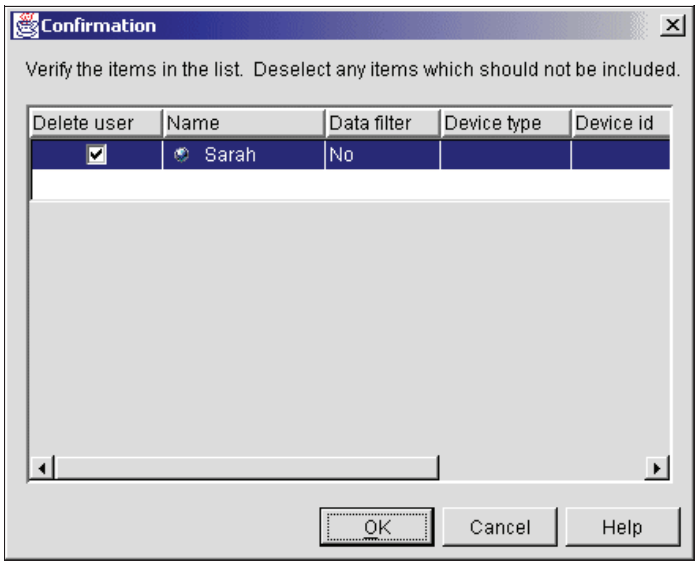


Figure 3-22 Confirmation for deleting user from MDAC

Click **OK** to confirm the deletion.

If any DB2e group is removed from WebSphere Portal, upon refreshing the Portal Server LDAP groups, MDAC will warn you of the inconsistency and prompt you to delete the group from MDAC's control database.

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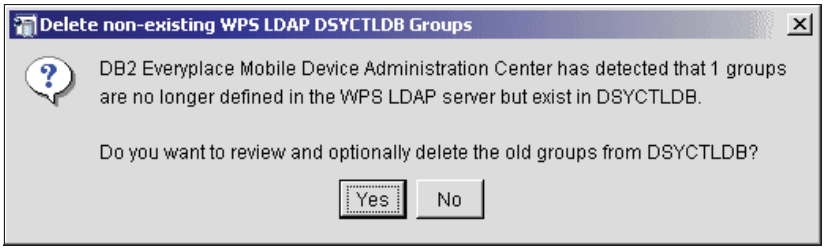


Figure 3-23 MDAC prompts for inconsistency in group information

Click **Yes** to delete the group from MDAC.

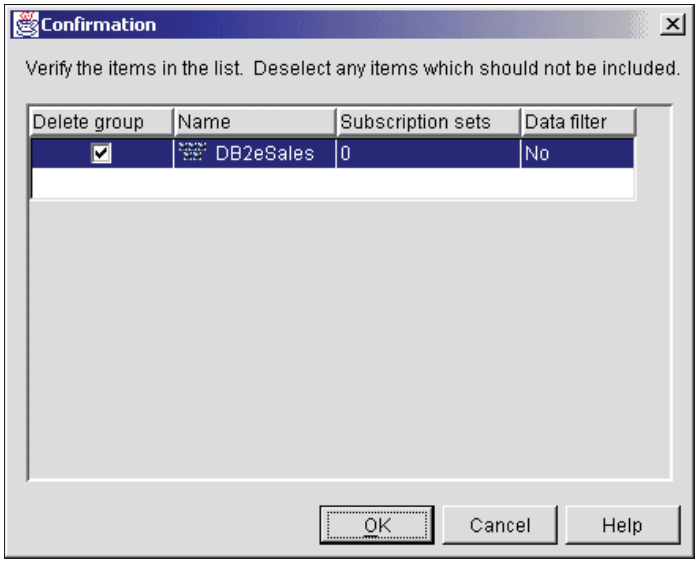


Figure 3-24 Confirmation for deleting user from MDAC

Click **OK** to confirm the deletion.

3.5 DB2 Everyplace Client configuration

The DB2 Everyplace Client is a component of the Everyplace Client. For general information about the Everyplace Client and for information about the installation and configuration of the Everyplace Client refer to *IBM WebSphere Everyplace Access V5 Handbook for Developers and Administrators Volume I: Installation and Administration*, SG24-6462.

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Follow these steps to configure database synchronization for a particular user, using the DB2 Everyplace Client:

1. Start the DB2 Everyplace Client. On Pocket PC devices you can start the client using the integrated interface or by selecting **Start -> Programs -> DB2 Everyplace SyncServer -> isyncui**. On Palm devices you have to select the IBM Sync icon.
2. On Pocket PC devices, select **File -> Server Settings** and the **File -> Client Settings** to open the Settings window. On Palm devices select **Options -> Settings**.
3. For both platforms, enter meaningful values for the Server IP, Port number, User ID, and Password fields.
4. (Optional) Select **Advanced** on the Settings window. You can set the SSL support, the timeout for the synchronization session, the detail level for the log file and the target directory for the database files. Also for Palm devices, you can select if you want to start the database synchronization when you start the HotSync synchronization. Click **OK** to close the Advanced settings window.
5. Click **OK** to close the Settings window.
6. To start the database synchronization, select **Synchronize**. You will see the synchronization progress window.
7. When the synchronization ends, you can review the logs for detailed information about the synchronization session. On Pocket PC devices select **File -> View Log**. On Palm devices select **Log**.

3.6 Sample application synchronization

IBM DB2 Everyplace provides a sample application that is installed automatically: The Visiting Nurse (VNURSE) application. This application simulates the scenario where a nurse visits some patients and takes their medical data. The nurse uses the VNURSE application to retrieve a patient's information, such as past medical record and contacts. The nurse also uses this application to record the newly collected medical data, and can synchronize with the back-end database to upload or download the latest updated information about the patients.

To get familiar with this sample application:

- Select **Programs -> DB2 Everyplace Samples -> VNURSE** for Pocket PC devices.
- Select **Nurse** in Applications for Palm devices.

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To work with this sample application, there are also subscriptions and subscription sets in the Everyplace Synchronization Server. The subscription is JDBCSUB1 and the subscription set is SUBSCRIPTION_SET1.

Explore the defined subscription and subscription sets in MDAC to get familiar with them.

To try out the sample application VNURSE synchronization:

1. Create a synchronization group and add a user to it.
2. Create a relational database adapter group (DB2e group) and add the same user to this group as well.
3. In MDAC, add the DB2e group to subscription set SUBSCRIPTION_SET1.
4. Configure the Everyplace Client on the device as explained in 3.5, “DB2 Everyplace Client configuration” on page 228.
5. Start the DB2 Everyplace ISync Client on the device.
6. Select **Synchronize**, as shown in Figure 3-25. The synchronization starts.

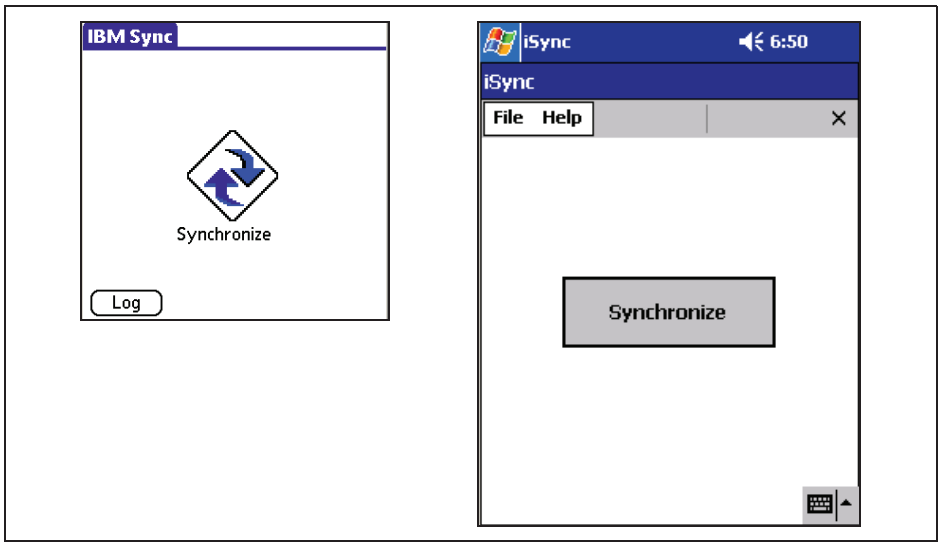


Figure 3-25 Executing DB2 Everyplace Sync

7. When the synchronization is complete, you will see a message as shown in Figure 3-26 on page 231.

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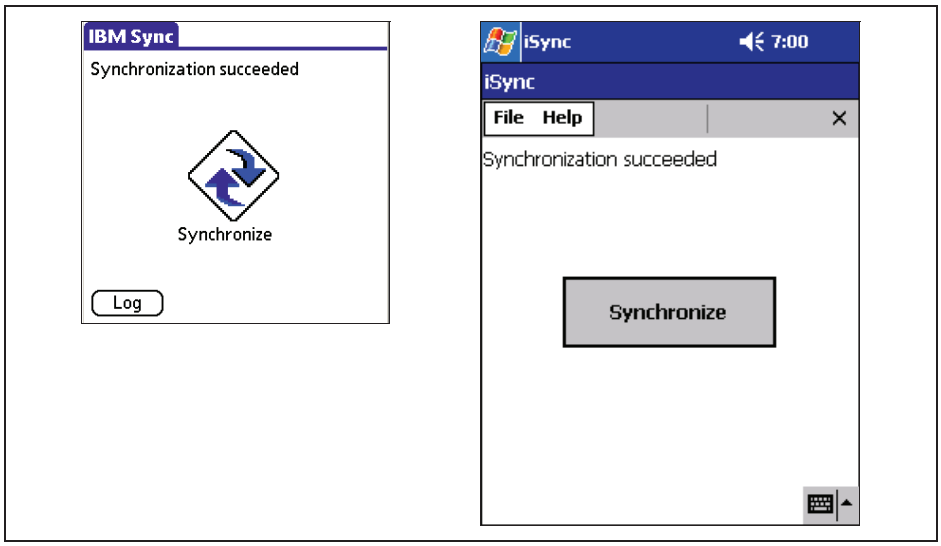


Figure 3-26 DB2 Everyplace Sync completes

8. If for any reason the synchronization failed, select **Log** on Palm devices or **File -> View logfile** on Pocket PC devices to get some information about the failure.
9. Try adding a new medical record using the VNURSE application, then perform the synchronization again.
10. Use the DB2 Control Center to view whether the new record appears in the VNMEDICALRECORD table of the VNURSE database.

3.7 Verify the synchronization

After completing the synchronization, you may verify the synchronization results. On the server side, use the usual ways to query the back-end database to verify the changes are there. On the client, if you have an application that can retrieve and display the data from the databases, such as the sample VNURSE application, use it to verify the results.

Another generic way to verify the results is to use the DB2 Everyplace CLP tool that comes with DB2 Everyplace:

1. Click **Programs -> DB2 Everyplace Samples -> DB2eCLP** on Pocket PC devices, or select **DB2eCLP** on Palm devices.
2. Select **OK** on the Welcome window. The DB2 Everyplace CLP interface is shown.

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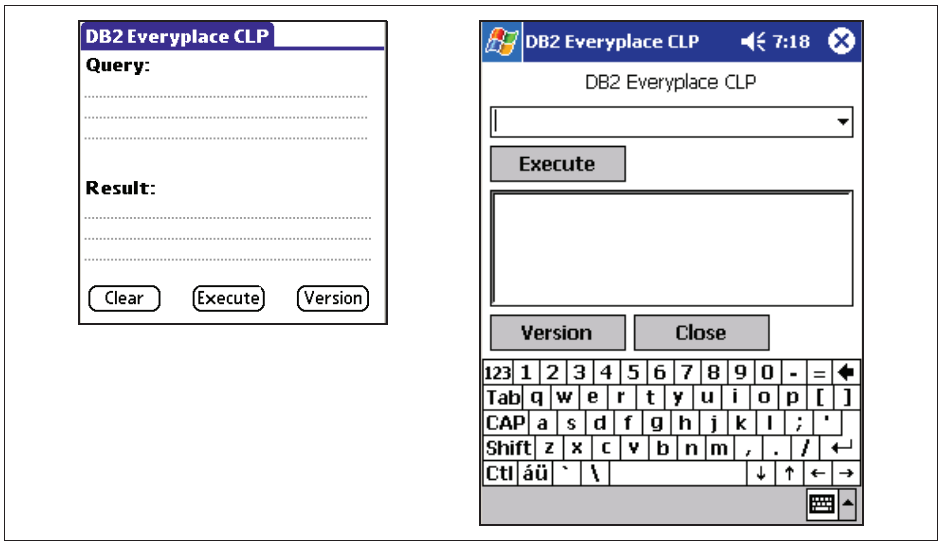


Figure 3-27 DB2 Everyplace CLP

3. On Pocket PC, type in the top pane:

   ```
   connect to \database_path\
   ```

   Make sure the database path is followed by a backward slash (\); otherwise, the connection will not be established. Then select **Execute**. On Palm devices this step is not necessary because, by default, the database is stored in only one place.

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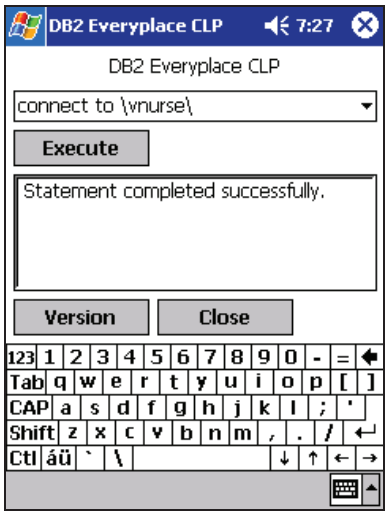


Figure 3-28 Connecting to the database in Pocket PC

4. Type the SQL statement in the top pane, for example:

   ```
   select * from vnmedicalrecord where patientid='900000001'
   ```

   Click **Execute** and the query results will be displayed in the bottom pane for you to verify.

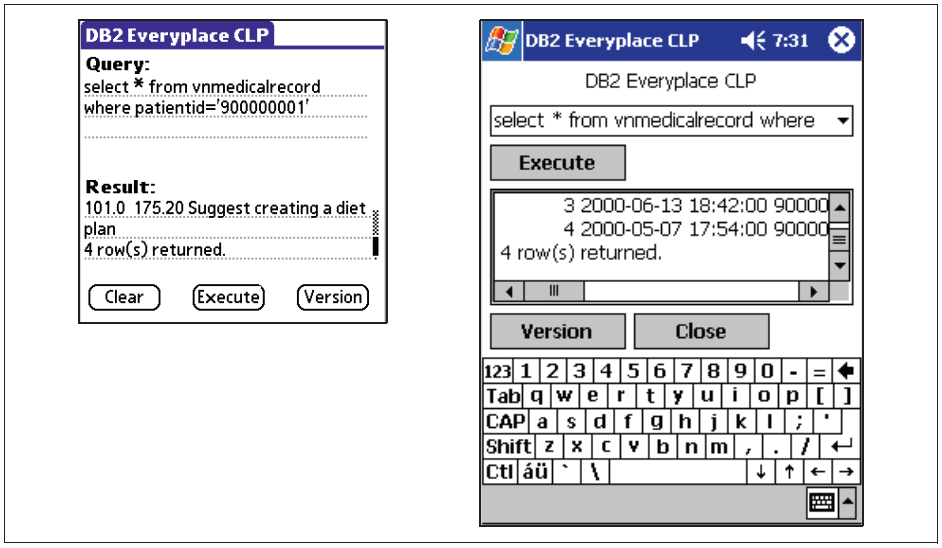


Figure 3-29 Using DB2 Everyplace CLP

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5. Type in other necessary SQL commands to verify.
6. When done, make sure to exit the DB2 Everyplace CLP by clicking the **Close** button to release the database connection. Otherwise, other DB2 Everyplace applications will not be able to operate.

3.8 Synchronization using SSL

To prevent synchronization data from being exposed to unintended parties, it is often desirable to turn on security between the server and the client. In the case of DB2 Everyplace Synchronization, security could be enabled between:

- The HTTP server and the mobile client
- The HTTP server and the Application Server

For more information about security on the WebSphere Application Server platform, refer to *IBM WebSphere V5.0 Security WebSphere Handbook Series,* SG24-6573.

3.8.1 Enable server security

Refer to *IBM WebSphere Everyplace Access V5 Handbook for Developers and Administrators Volume I: Installation and Administration*, SG24-6462, for detailed steps for configuring SSL support between the HTTP Server and the mobile device.

3.8.2 Enable client security

Refer to *IBM WebSphere Everyplace Access V5 Handbook for Developers and Administrators Volume I: Installation and Administration*, SG24-6462, for information about how to configure SSL security using the Everyplace Client.

3.9 Synchronization with remote DB2 databases

In an enterprise environment, the databases are often stored on separate machines from the DB2 Everyplace server. You can synchronize with remote DB2 databases cataloging the remote database using the DB2 CATALOG command or the Client Configuration Assistant. Once the remote database is

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cataloged, the procedure to create JDBC subscriptions is the same as that for local DB2 databases.

3.10 Types of subscription

In the previous sections, we use the JDBC subscription for data synchronization. There are three possible types of subscriptions for relational database tables:

- DataPropagator™ subscription

  The DataPropagator subscription is used only with DB2 back-end data sources. The DB2 data source is left intact, but separate steps must be taken to enable replication between source and mirror databases.

- JDBC subscription

  The JDBC subscription provides users with access to data in any source database with a JDBC interface. Triggers are inserted into the source database.

- Upload subscription

  The Upload subscription only allows the user to directly insert rows into a table on a source database. The source table may reside on any database that supports JDBC. There is no mirror database involved.

3.10.1 DataPropagator subscription

With DataProgator subscriptions, DB2 Everyplace Synchronization Server uses DB2 DataPropagator to replicate data between the source DB2 database and the mirror DB2 database. Figure 3-30 on page 236 illustrates this process.

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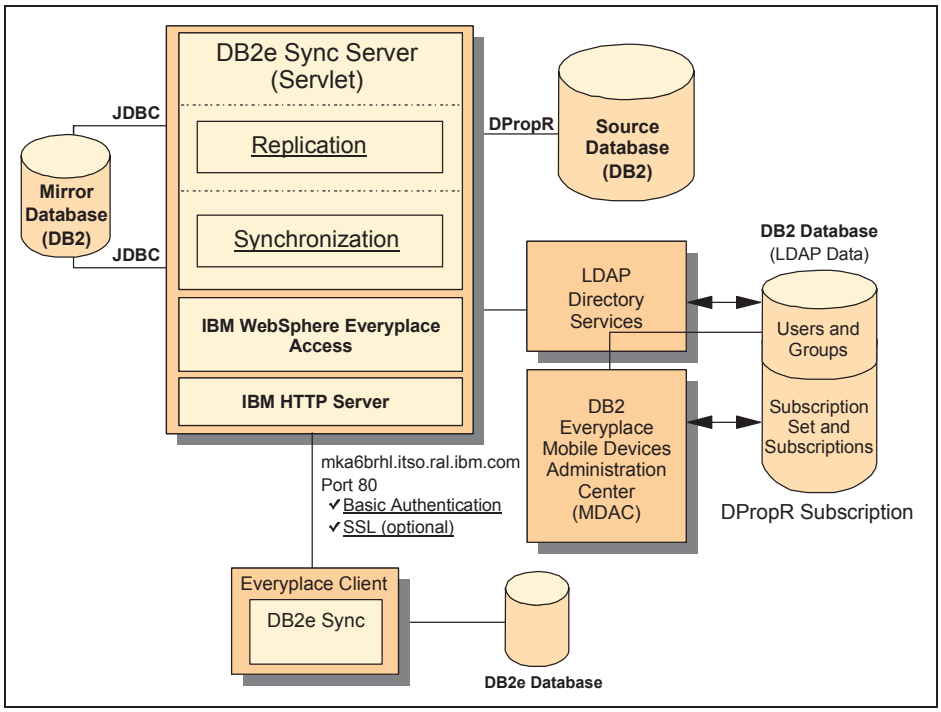


Figure 3-30 DataPropagator subscription - Sample scenario

In the whole synchronization scenario, different subscription types only affect replications. Client configuration and usage steps remain the same.

Note: DataPropagator subscriptions can only be used with DB2 back-end databases.

The way to create DataPropagator subscriptions is different depending on the DB2 version installed. The following section will explain how to create a DataPropagator subscription on DB2 V7 servers. However, by default, WebSphere Everyplace Access comes with DB2 UDB V8, and the steps are a little bit different. Please refer to the Infocenter for additional information.

Restriction: Do not create a DataPropagator subscription on tables that have referential-integrity constraints or triggers. Otherwise, replication would fail and would be unrecoverable.

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Creating a DataPropagator subscription using DB2 V7

Before creating DataProgator subscriptions, the source database table must be defined as a replication source in DB2:

1. Open the DB2 Control Center and Mobile Devices Administration Center by clicking **Start -> Programs -> IBM DB2 Everyplace -> Start Mobile Device Administration Center**.
2. In the DB2 Control Center, expand the source database (for example, VNURSE) and select the **Tables** folder to list the available tables.
3. Right-click the synchronization source table, for example, VNMEDICALRECORD.
4. Select **Define as replication source -> PE**.

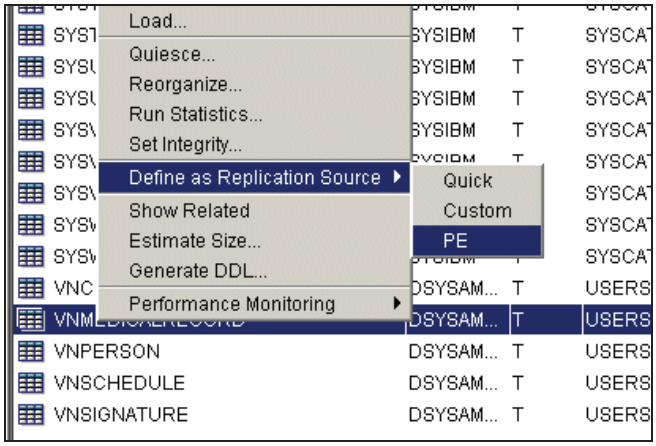


Figure 3-31 Define source database table as replication source

5. Select **Run Now**.

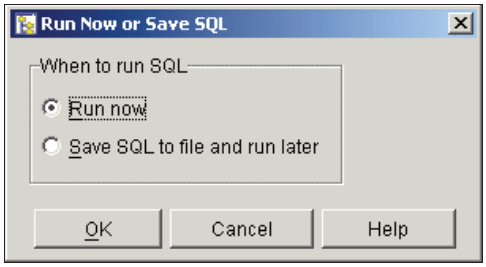


Figure 3-32 Run Now

6. Click **OK**.

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7. Verify the replication source has been created by clicking the **Replication Sources** folder.

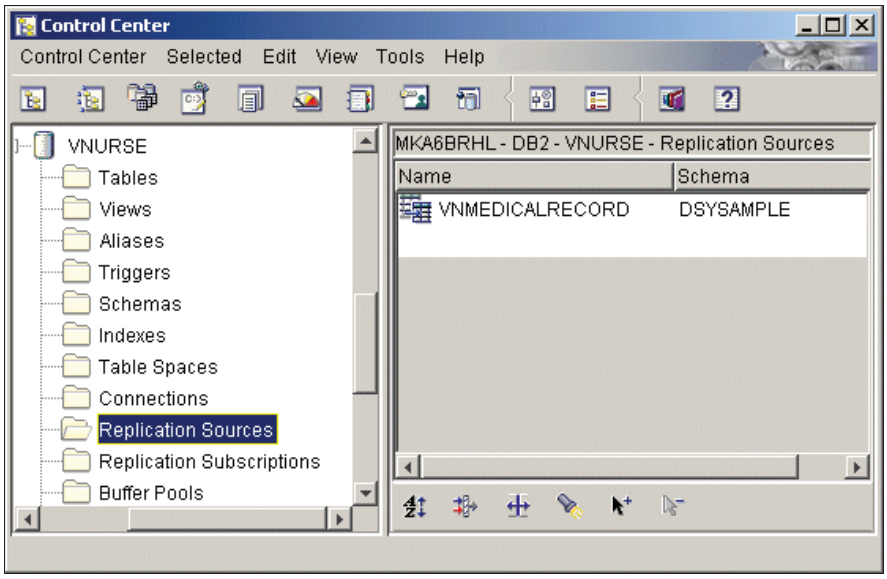


Figure 3-33 Table added as replication source

Now we can define the subscription.

8. Stop the DB2 Everyplace SyncServer using the WebSphere Application Server Administrator Console, to avoid the warning message shown in Figure 3-34.

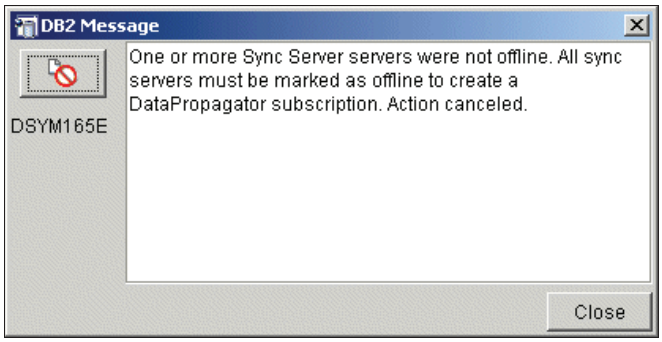


Figure 3-34 Warning about online sync server

9. In the Mobile Devices Administration Center, select **Subscription -> Create -> Table Subscription -> DataPropagator subscription**.

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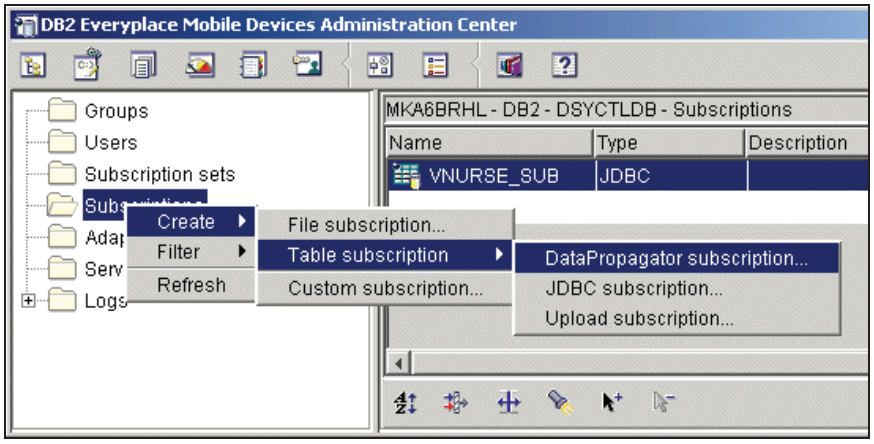


Figure 3-35 To create DataPropagator subscription in MDAC

10. The Create DataPropagator Subscription wizard opens. On the Identification tab, type a name for this subscription, for example, MedicalRecord. Optionally, enter a description for this subscription.

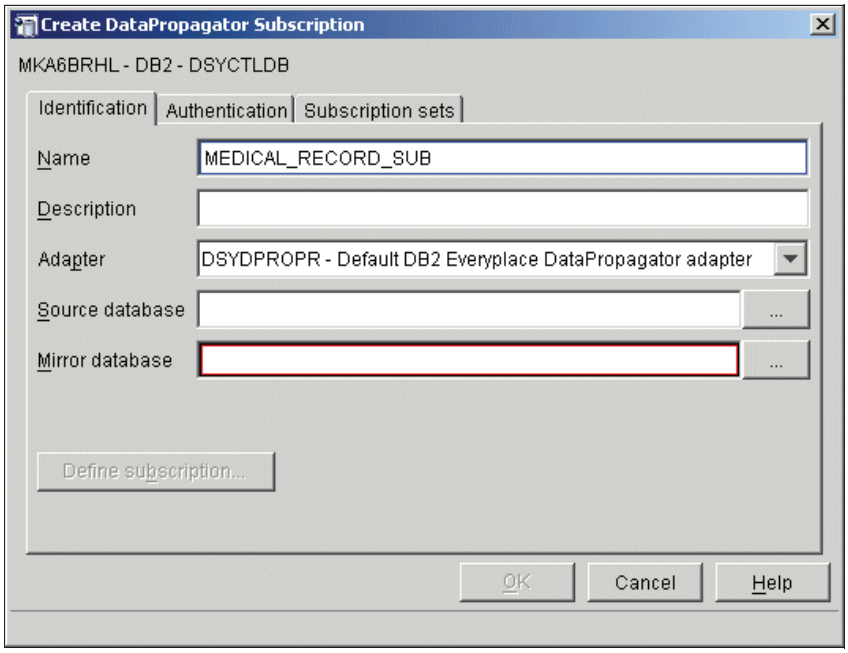


Figure 3-36 Create DataPropagator Subscription wizard

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11. Click the **...** button next to the Source database field. Choose the source database from the list, and click **OK**.

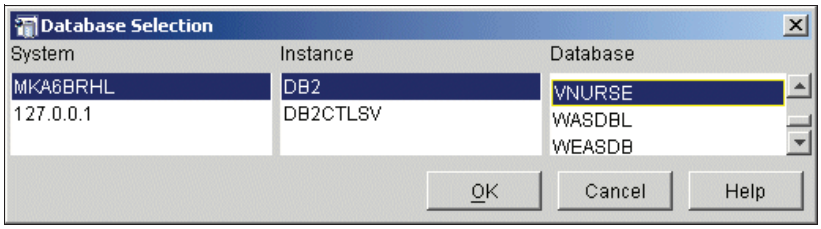


Figure 3-37 Choose source database

12. Click the **...** button next to the Mirror database field. Choose the mirror database from the list, and click **OK**. If a mirror database was not created earlier, click **Create** to launch the Create Database wizard.

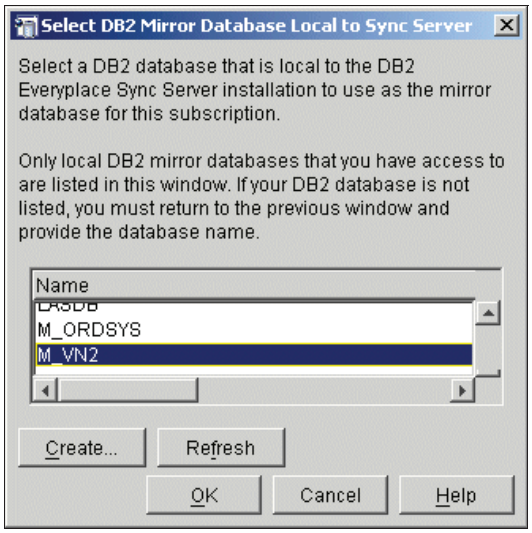


Figure 3-38 Set mirror database

13. Click the **Authentication** tab. Enter the user ID and password information for both source and mirror databases.

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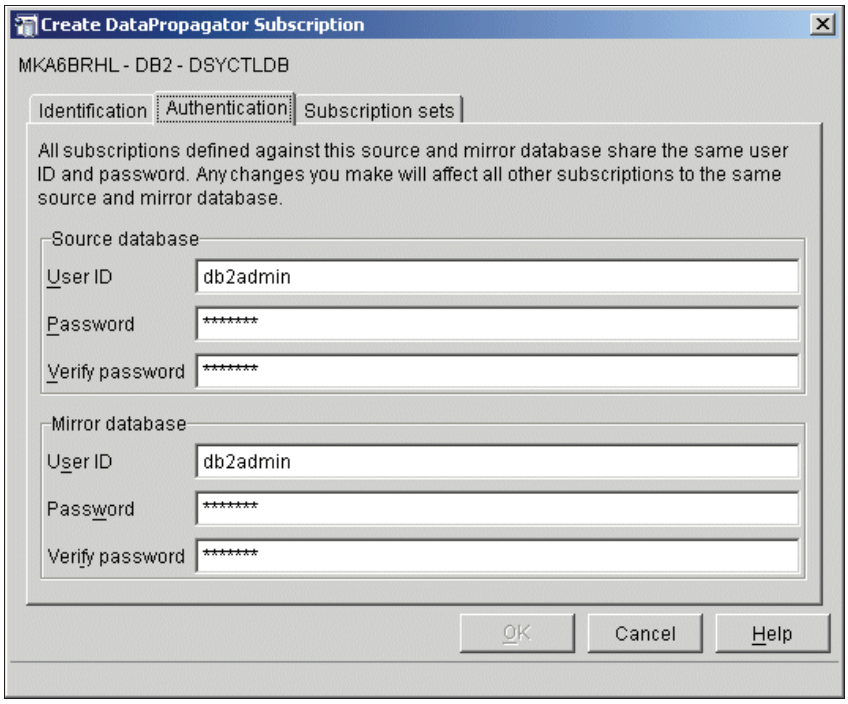


Figure 3-39 Enter authentication information for source and mirror databases

14. Click the **Subscription sets** tab. Select the subscription sets that this subscription will belong to and click **>** or **>>** to bring it to the Selected subscription sets pane. You can also click **Create** to create a new subscription set.

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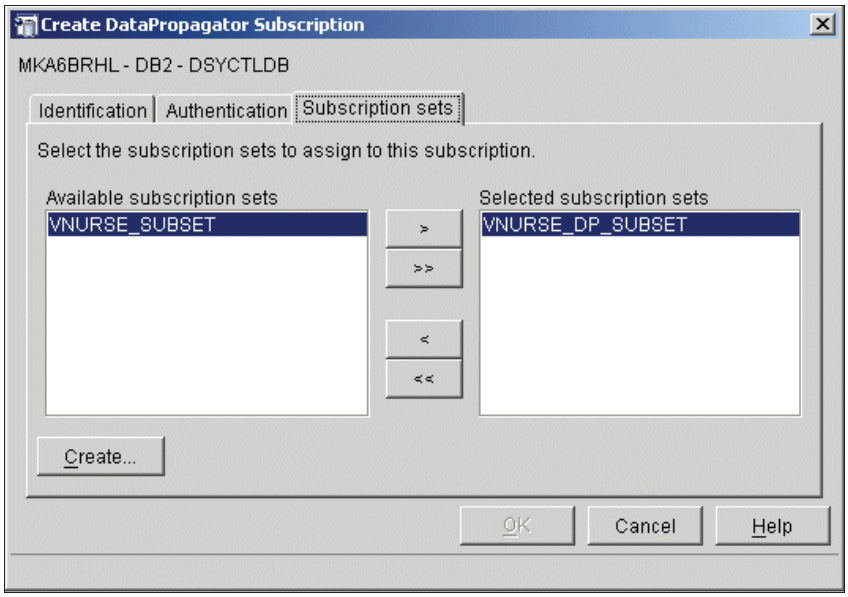


Figure 3-40 Select subscription set

15. Click the **Identification** tab again. Click the **Define subscription** button.

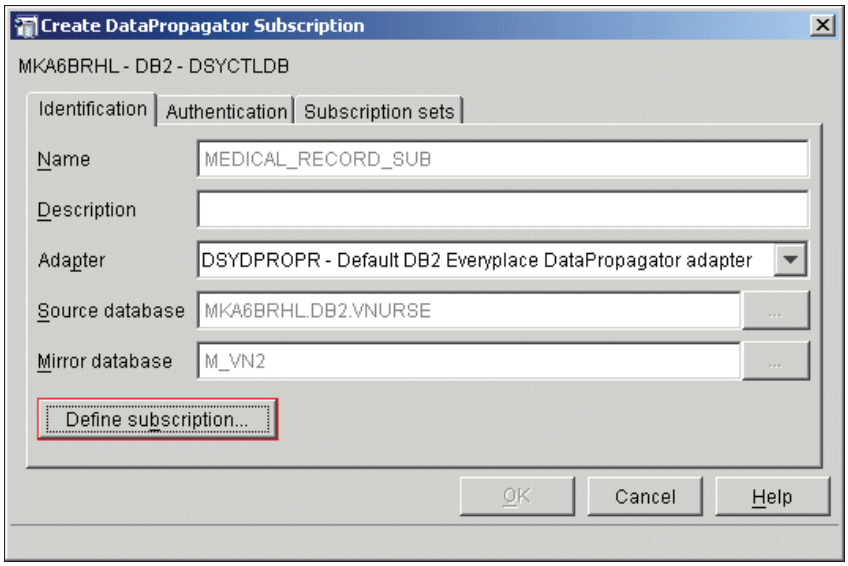


Figure 3-41 Define subscription

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16. The Define Replication Subscription wizard opens.

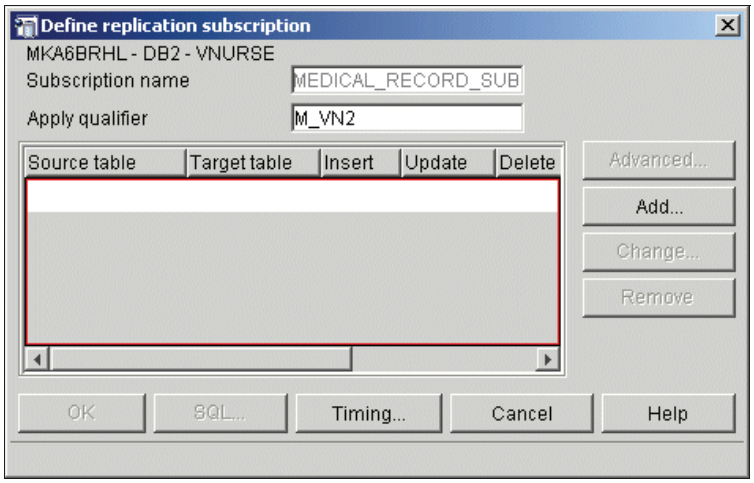


Figure 3-42 Define Replication Subscription wizard

17. Click the **Add** button to open the Add window.

18. The previously defined replication sources are displayed. Select the desired one and enter a name in the Target table field if it is different from the source. Click **Add**. Repeat for more replication sources. Click **Close** when done.

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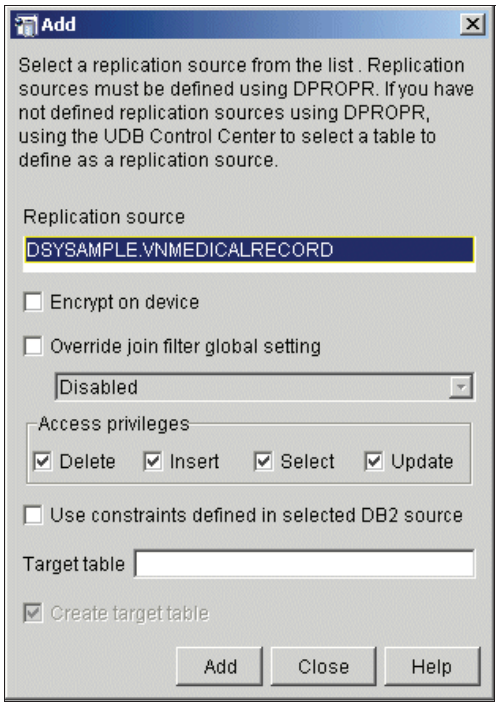


Figure 3-43 Add replication source

19. In the Define Replication Subscription wizard, click the **Timing** button to modify the replication frequency.

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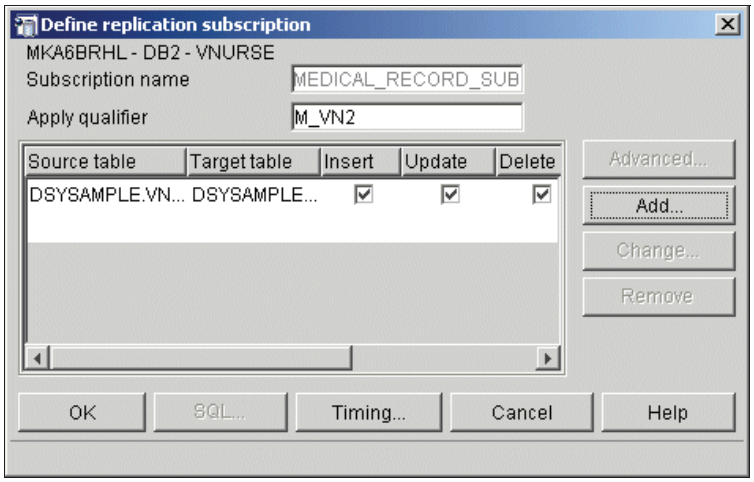


Figure 3-44 Define Replication Subscription wizard

20. Click **OK** and **OK**. Upon successful creation of the subscription, a DB2 message is shown.

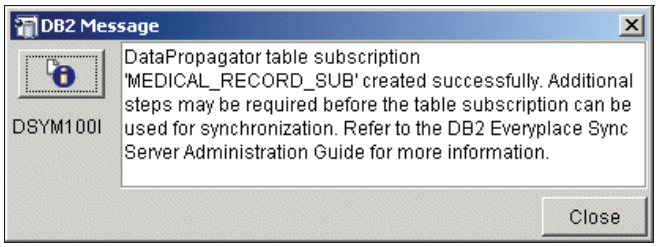


Figure 3-45 Subscription creation successful

Now there are some extra steps to take in order to bind the tables and start capture for the DataPropagator subscription:

1. Exit the DB2 Control Center and Mobile Devices Administration Center.
2. Open a DB2 command window by selecting **Start -> Programs -> IBM DB2 -> Command Window**.
3. Shut down all connected applications by entering:

```
db2 force application all
```

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Note: If you are using the same DB2 database server to store the WebSphere Everyplace Access components configuration and to test the DataPropagator synchronization, be sure to stop all the components that use the database server before issuing the **db2e force** command.

4. In a DB2 command window, change to the bnd directory of the DB2 UDB, for example:

   ```
   cd c:\program files\SQLLIB\bnd
   ```

5. Then enter:

   ```
   bindcap db_name db2user db2userpassword
   ```

   This will change the database configuration parameter LOGRETAIN to CAPTURE. Replace db_name with the name of the database you would like to update, such as VNURSE in our example. Note that db2user must be a valid DB2 UDB user name, and db2userpassword the corresponding password.

6. The same command must be run for the mirror database as well:

   ```
   bindcap mirror_db_name db2user db2userpassword
   ```

   Replace mirror_db_name with the name of the mirror database you would like to update, such as M_VN2 in our example.

7. Start the capture process by typing in the DB2 command window:

   ```
   asnccp db_name
   ```

   Where *db_name* is the source database, for example, VNURSE in our example. Leave the DB2 command window open. The capture process will run continuously in the background. If the capture process stops, repeat these steps.

8. The DataPropagator subscription has been fully configured now; check the Logs\Replication folder in MDAC to make sure replication succeeds.

Once the subscription is set up, IBM Everyplace Client can synchronize with the source database in exactly the same way with JDBC subscriptions.

For other resources on how to configure the DataPropagator subscription, refer to the WebSphere Everyplace Access Infocenter and go to and review the **DB2Everyplace -> Administering -> Subscriptions -> DataPropagator** section.

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3.10.2 Upload subscription

The upload subscription process, as the name suggests, is one way only. It allows the client to insert rows into the source database, but not the other way around. There is no mirror database involved in the upload subscription process, which is illustrated in Figure 3-46 on page 247. In this sample scenario, a DB2 back-end database is used as the source database.

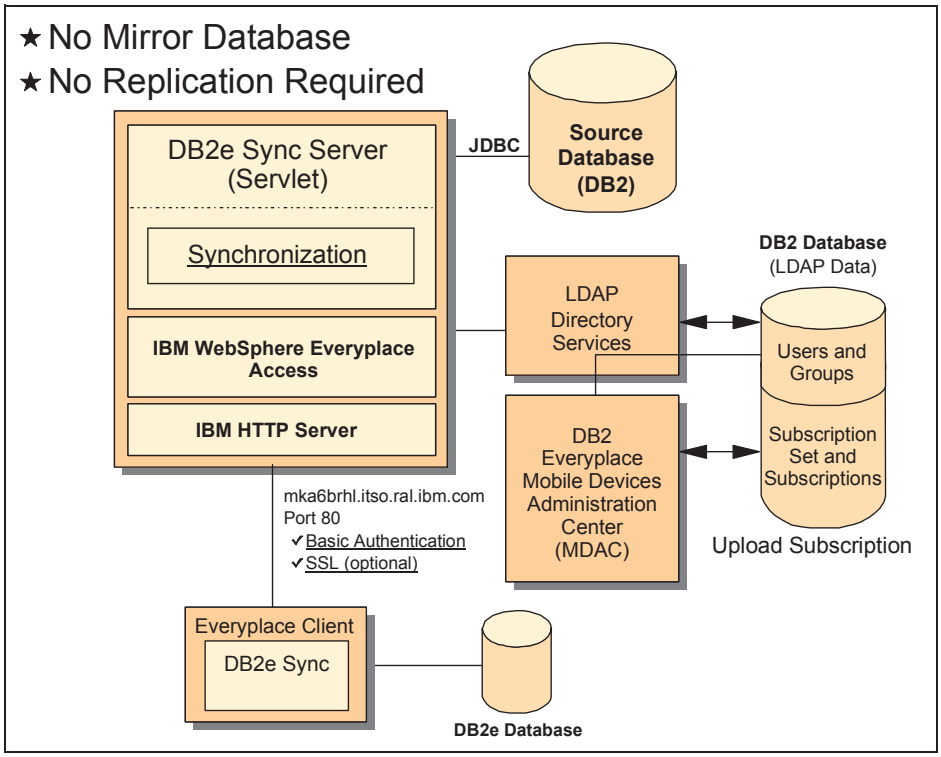


Figure 3-46 Upload subscription - Sample scenario

To create an upload subscription:

1. Open the Mobile Devices Administration Center by clicking **Start -> Programs -> IBM DB2 Everyplace -> Start Mobile Device Administration Center**.
2. In the Mobile Devices Administration Center, select **Subscription -> Create -> Table Subscription -> Upload subscription**.

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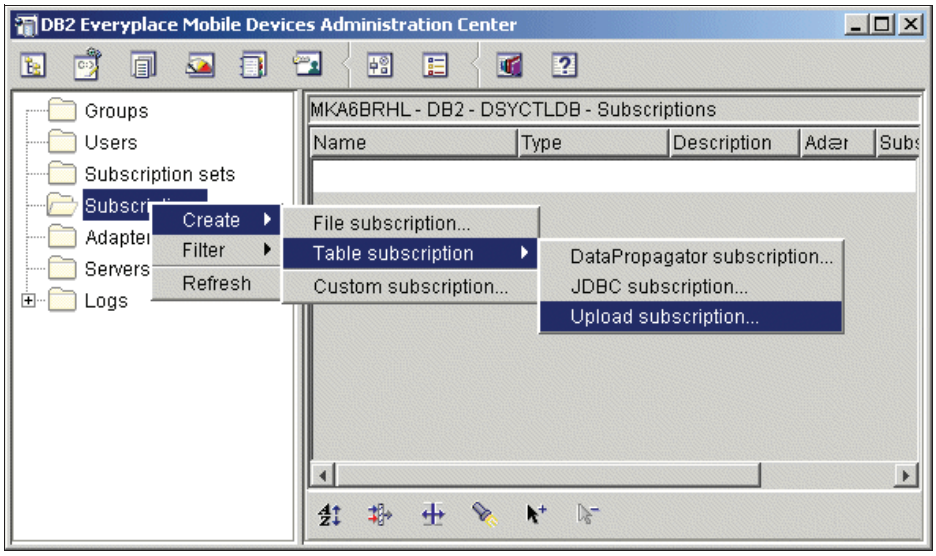


Figure 3-47 Create upload subscription

3. The Create Upload Subscription wizard opens. On the Identification tab, type in a name for this subscription, for example, MedicalRecord. Optionally, enter a description for this subscription.

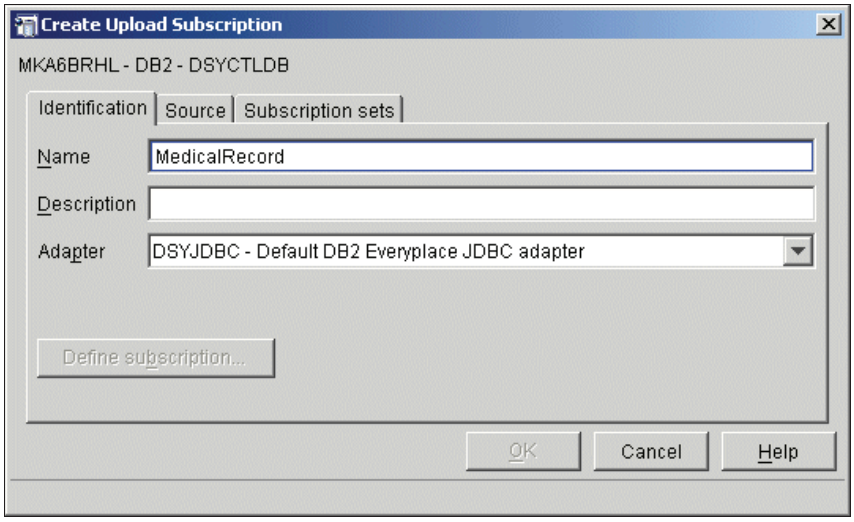


Figure 3-48 Name the subscription

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4. Click the **Source** tab. Choose the suitable database driver by clicking the down arrow next to the Driver field.

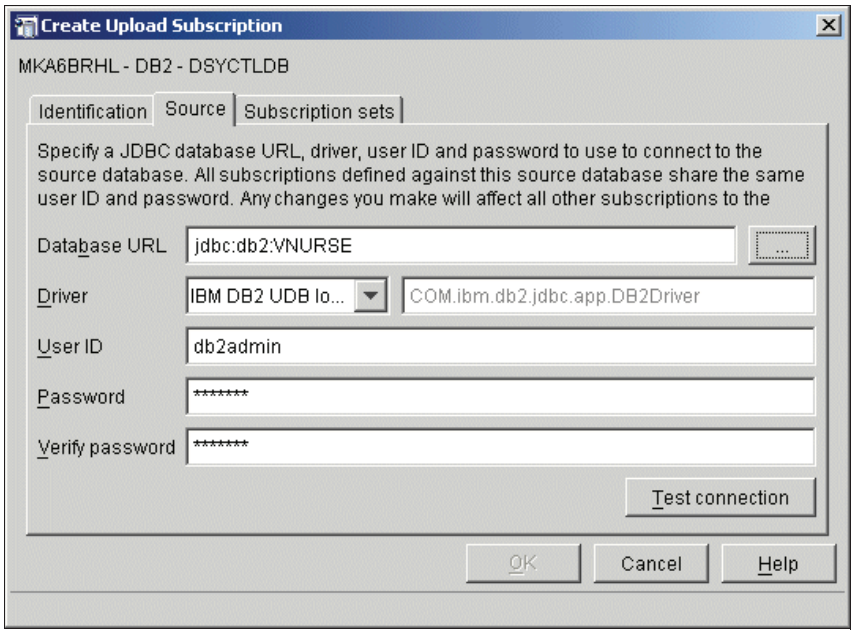


Figure 3-49 Setup source database

5. In the same window, enter the user ID and password that can access the source database.
6. Click the **Subscription sets** tab. Select the subscription sets this subscription will belong to and click **>** or **>>** to bring them to the Selected subscription sets pane. You can also click **Create** to create a new subscription set.

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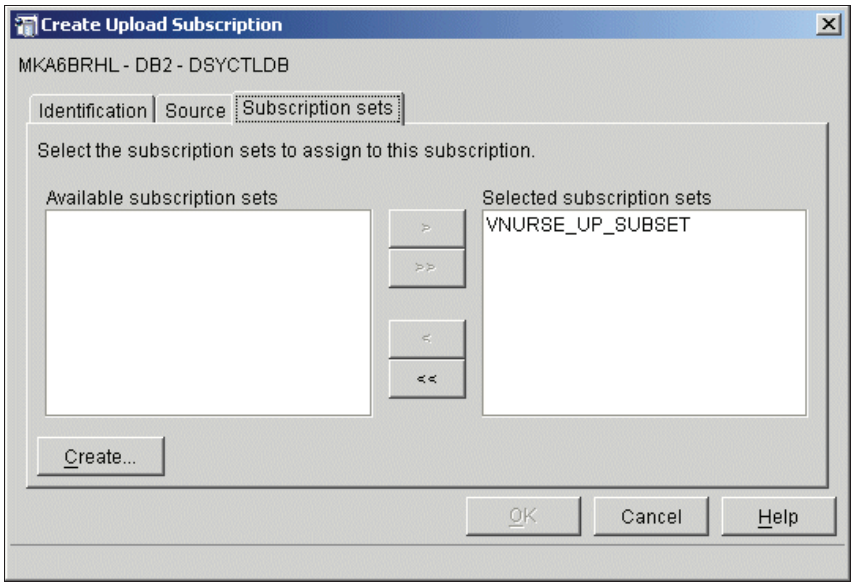


Figure 3-50 Select subscription set

7. Click the **Identification** tab again. Click the **Define subscription** button. The Define Upload Subscription wizard opens.

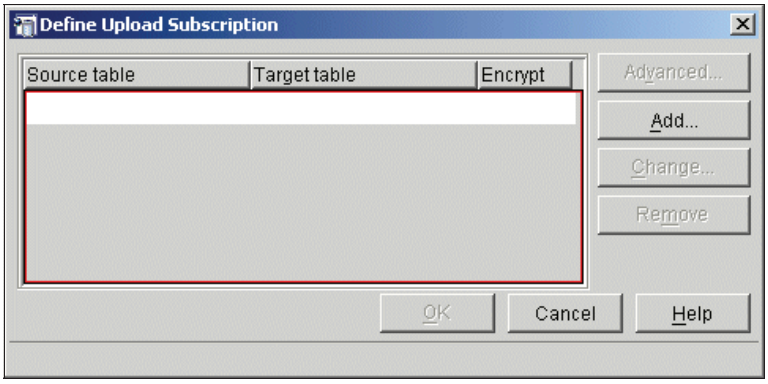


Figure 3-51 Define Upload Subscription wizard

8. Click the **Add** button to open the Add window.
9. Select the table into which rows will be inserted from the client. Change the Target schema and Target table name if they are different from the defaults. Click **Add**. Repeat for more tables. Click **Close** when done.

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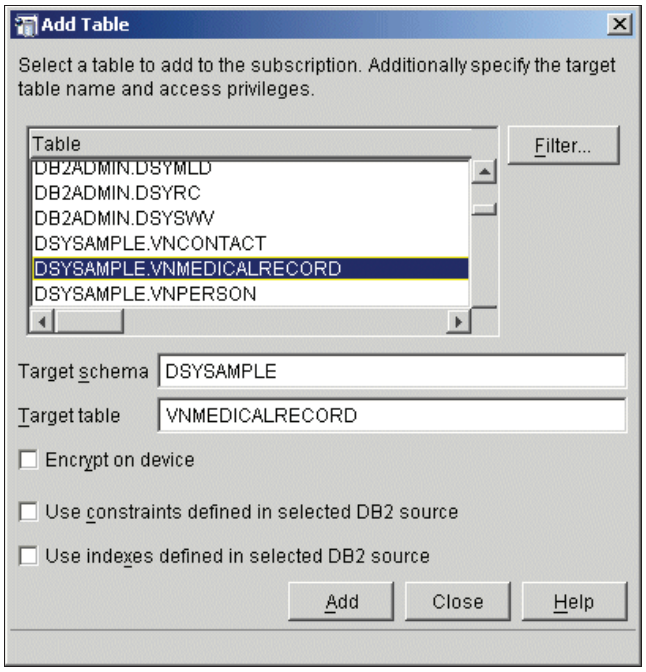


Figure 3-52 Select the table that is to receive data from client

10. Click **OK** and **OK**. The Upload Subscription will be created and shown in MDAC.

Once the subscription is set up, changes made to the DB2 Everyplace databases on the client will be uploaded into the source database through the use of IBM Everyplace Client. Changes made to the source database, on the other hand, will be propagated to the client database. IBM Everyplace Client usage is the same regardless of the different subscription type.

3.11 Filtering data from data sources

DB2 Everyplace Synchronization Server includes several filtering options for horizontal, vertical, and user-based filtering methods. Data filtering is essential to reduce traffic and optimize mobile device storage.

For details on how to configure these filters, refer to the WebSphere Everyplace Access Infocenter and review the **DB2Everyplace -> Administering -> Filters** section.

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Tip: Keep your filters as simple as you can. A very complex filter could create excessive work to your database server and cause reliability issues. If you need a filter that is complex, using the remote query and stored procedure adapter could be a better option. Please refer to the WebSphere Everyplace Access Infocenter and review the **DB2Everyplace -> Synchronizing -> The remote query and stored procedure adapter** section.

3.12 Debug and tracing

In this section, we include some useful information that you may need for problem determination when synchronizing DB2 Everyplace data.

3.12.1 Application server logs files

The log files for the DB2 Everyplace application server are located in *WebSphere_Install_Dir*\DB2Everyplace\Server\logs\IBMDB2eServer.

3.12.2 Enable tracing

To turn on tracing for DB2 Everyplace Synchronization Server:

1. Open and edit the file:

   WebSphere_Install_Dir\DB2Everyplace\Server\properties\com\ibm\mobileservices\DSYGdflt.properties

2. Modify the key Trace.Level to:

   ```
   Trace.Level = *
   ```

3. Restart Everyplace Synchronization Server in the WebSphere Application Server Administrative Console.

3.12.3 Trace files

The trace files for DB2 Everyplace synchronization are:

WebSphere_Install_Dir\DB2Everyplace\Server\logs\IBMDB2eServer\dsy*XXXX*.trace

Where *XXXX* is 0000,0001, 0002....n. Depending on the trace file size set in DSYGdflt.properties, when the first trace file (dsy0000.trace) hits the limit, a new trace file (dsy0001.trace) is generated, and so on.

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3.12.4 DB2 Everyplace control database

All the information configured in MDAC is stored in a control database (DSYCTLDB) in DB2. If the control database gets corrupted, it can be dropped and recreated using the batch file:

```
WebSphere_install_dir\WebSphere_Install_Dir\DB2Everyplace\Server\bin\dsyctldb.bat
```

3.13 Hints and tips

The following are some hints and tips:

- It is always a good idea to test your connection when defining subscriptions.
- Note that by default DB2 8 Workgroup Edition comes with a number of maximum active database parameter configured to 8. You should change this parameter depending of the number of active databases in your installation.
- After defining a subscription, check (in the MDAC under **Logs -> Replication**) if there is any replication activity started and ended successfully for the newly defined mirror database. If there is not, the subscription is probably not configured properly and you will need to delete it and define it again.
- When the database is large, make sure to configure a big enough log file size for the mirror database, as all the records are processed in a single transaction. Otherwise, replication may fail.
- When the database is large and replication takes a much longer time, make sure to leave enough time between each replication. Otherwise, replication may fail.
- When synchronization fails with no apparent reasons, try resetting the user in MDAC by right-clicking the particular user and choosing **Reset**.

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4

Synchronizing with Oracle databases

This chapter describes how to configure the Oracle database as the synchronization data source for WebSphere Everyplace Access DB2 Everyplace.

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4.1 Common grounds with DB2 data source

The relational database synchronization architecture was discussed in Chapter 3, “Synchronizing with DB2 databases” on page 207. This information remains valid in this chapter. The only difference is that the back-end database is Oracle now. Therefore, what is different here in operation is database replication. Now the data needs to be replicated into a DB2 mirror database from an Oracle data source. The process for JDBC subscription types is illustrated in Figure 4-1.

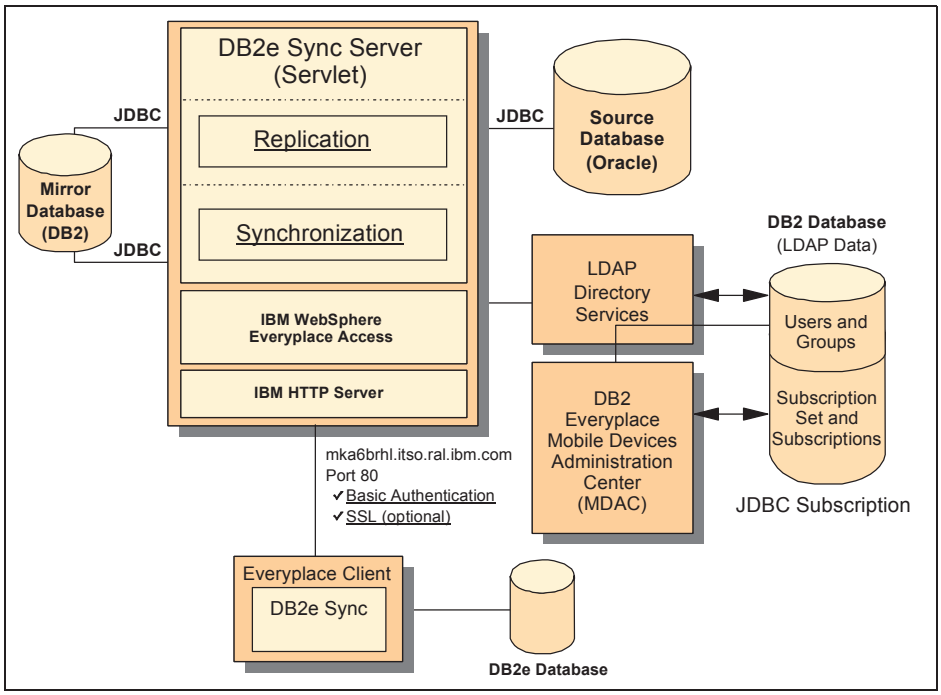


Figure 4-1 JDBC subscription synchronization with back-end Oracle database

For group and user creation and client configuration, refer to Chapter 3, “Synchronizing with DB2 databases” on page 207.

Note: This chapter only covers how to create subscriptions with an Oracle data source. Everything else remains the same as in the DB2 case.

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4.2 Create a subscription with Oracle data source

In this section, we include a recommended procedure to install the JDBC driver to support an Oracle back-end database. Once this driver has been properly installed, you should be able to add JDBC and Upload synchronization subscriptions. However, the DataPropagator subscription type is not available when using a back-end Oracle database.

4.2.1 Add Oracle JDBC driver

In order to create a JDBC subscription with an Oracle database, DB2 Everyplace Server must be aware of how to load Oracle's JDBC driver. The following steps illustrate the changes to be made:

1. Exit the Mobile Devices Administration Center, if it is running.
2. Stop the application server IBM DB2 Everyplace Server.
3. Locate the dsysetjavahome.bat file in the *WebSphere_install_dir*\DB2Everyplace\Server\bin directory and open it with a text editor.
4. Add the complete path of the Oracle JDBC driver to the SET_JDBC_DRV_CP line of the file and save the changes. For example:

   ```
   SET JDBC_DRV_CP=c:\oracle\ora92\jdbc\lib\classes12.zip
   ```

5. Open the Server.xml file for the DB2 Everyplace server located at *WebSphere_install_dir*\AppServer\config\cells\<cell_name>\nodes\<node_name>\servers\IBMDB2eServer with a text editor.
6. Locate the jvmEntries section and add a classpath entry with the driver location. In Example 4-1 on page 257 you can see an example of this modification. Save the file.

Example 4-1 IBMDB2eServer server.xml file

```
...

<jvmEntries xmi:id="JavaVirtualMachine_1098894074339" verboseModeClass=...
   <classpath>C:/WEBSPH~1/DB2EVE~1/Server/properties</classpath>
   <classpath>C:/SQLLIB/java/db2java.zip</classpath>
   <classpath>C:/WEBSPH~1/DB2EVE~1/Server/lib/udbfp7_8.zip</classpath>
   <classpath>C:/WEBSPH~1/DB2EVE~1/Server/lib/udbv72cc.zip</classpath>
   <classpath>c:/oracle/ora92/jdbc/lib/classes12.zip</classpath>
</jvmEntries>

...
```

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7. Restart the application server IBM DB2 Everyplace Server. Make sure there is no error in the server logs.

4.2.2 Create a JDBC subscription

To create a JDBC subscription:

1. Open the Mobile Devices Administration Center by clicking **Start -> Programs -> IBM DB2 Everyplace -> Start Mobile Device Administration Center**.
2. If there is no subscription set, create one following the steps described in 3.3.2, “Creating subscription and subscription set” on page 215.

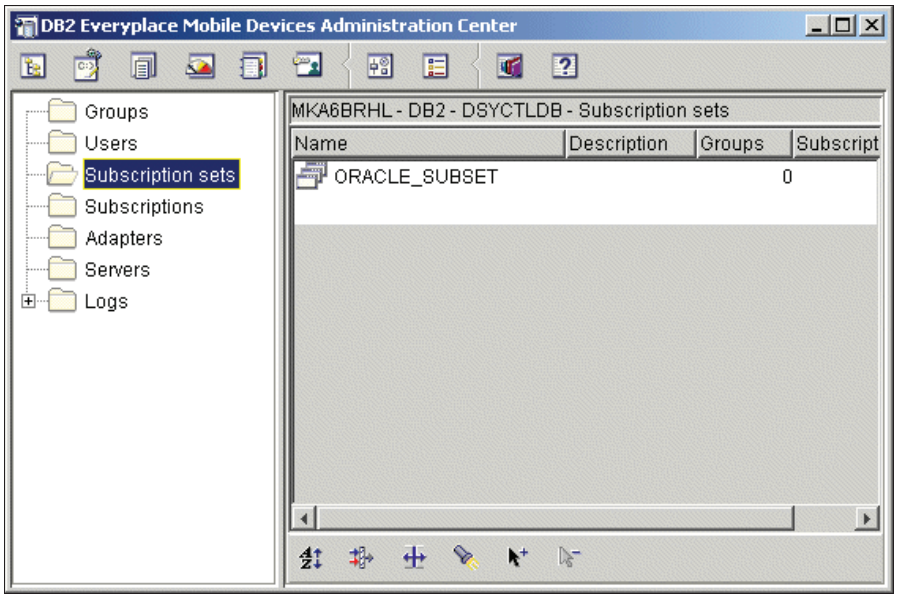


Figure 4-2 Create a subscription set

3. Right-click the **Subscriptions** folder and choose **Create -> Table subscription -> JDBC subscription**.
4. On the Identification tab, give the new subscription a name of your choice.

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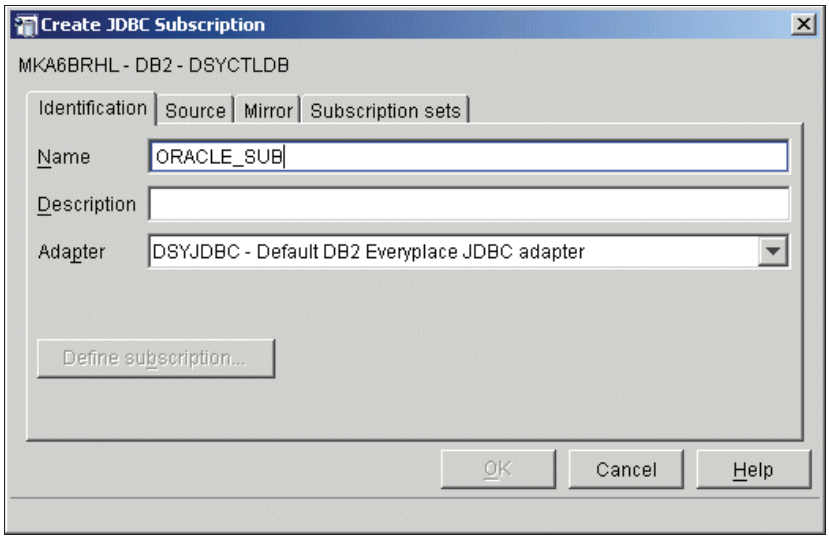


Figure 4-3 Name the subscription

5. Click the **Source** tab. Click the down arrow beside the Driver box and choose **Oracle** from the list. Observe that the format in the Database URL field changes.

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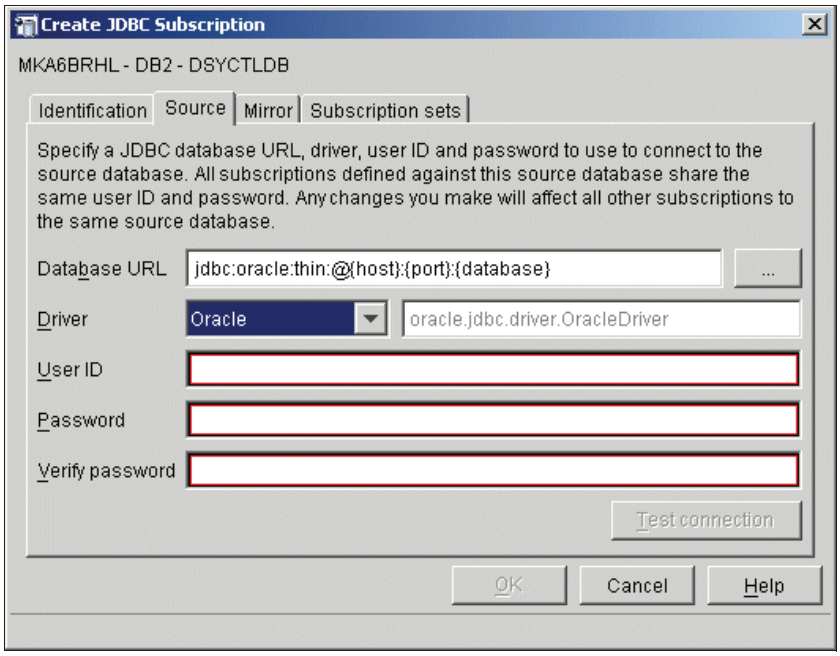


Figure 4-4 Choose Oracle as the driver

6. Enter the database URL for the Oracle data source, for example:

   `jdbc:oracle:thin:@oracledbs.itso.ral.ibm.com:1521:sales`

   Fill in the user ID and password that can access the database.

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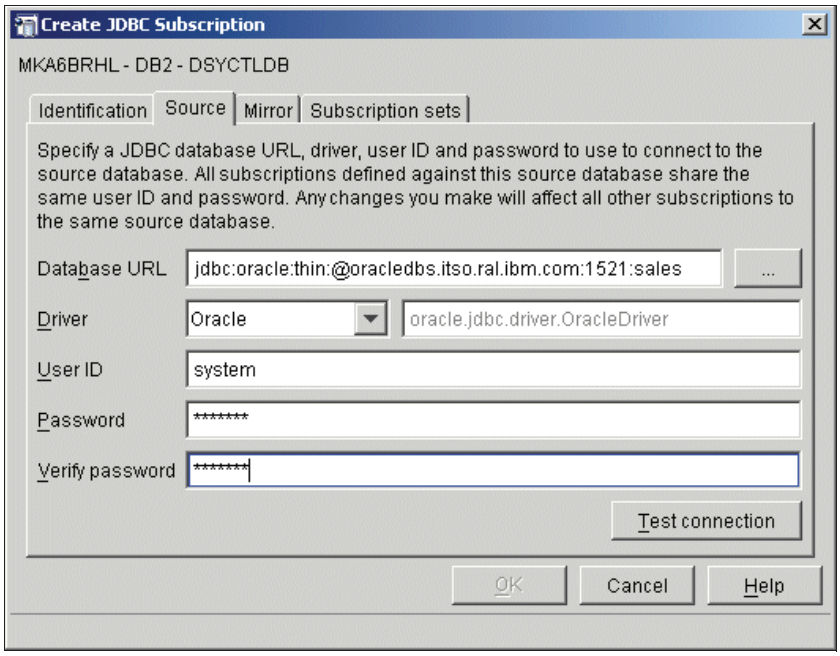


Figure 4-5 Fill in the source information

7. Click the **Test Connection** button to test whether a successful database connection can be established. If not, modify the information and try again.

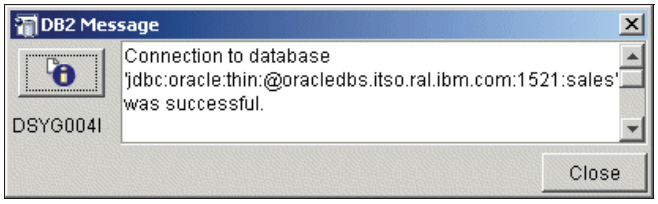


Figure 4-6 Test connection

8. Click the **Mirror** tab. Click the **...** button beside the Database URL box to choose a mirror database. Fill in the user ID and password information necessary to access the mirror database. Test the connection.

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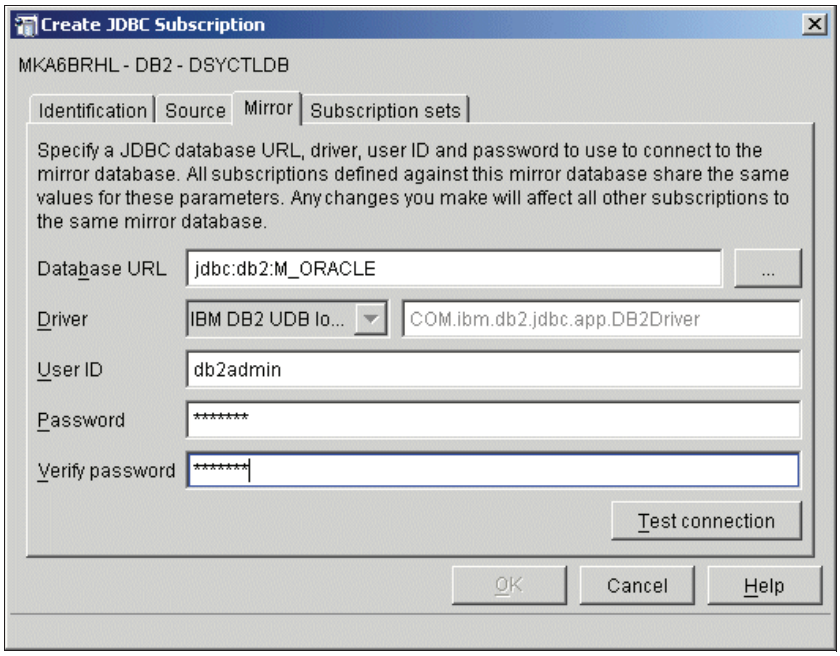


Figure 4-7 Configure mirror database

9. Click the **Subscription set** tab. Choose the subscription set this subscription will belong to and move it to the right pane.

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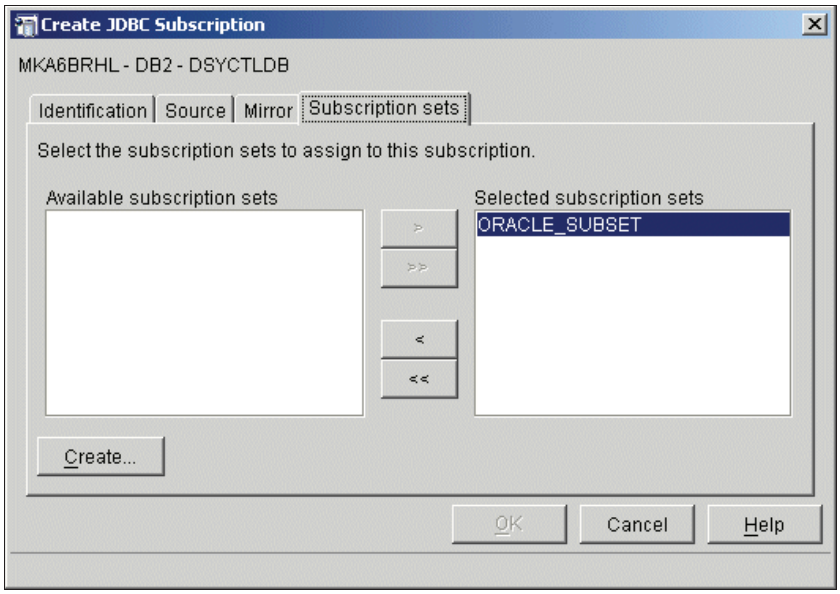


Figure 4-8 Choose subscription set

10. Go back to the Identification tab and click **Define subscription**.
11. Click **Add**. There is probably a message informing you that there are too many tables available to choose from. Click **Close**.

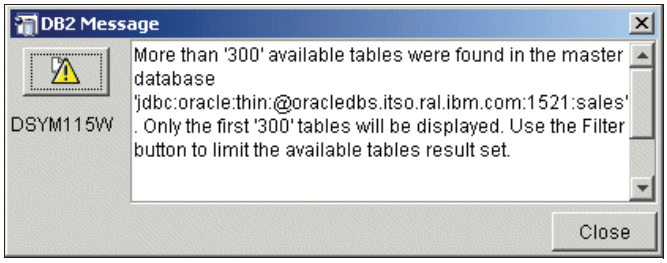


Figure 4-9 Too many tables to display

12. The available tables are shown. If you cannot find the table you want to use to do the configuration, click the **Filter** button.

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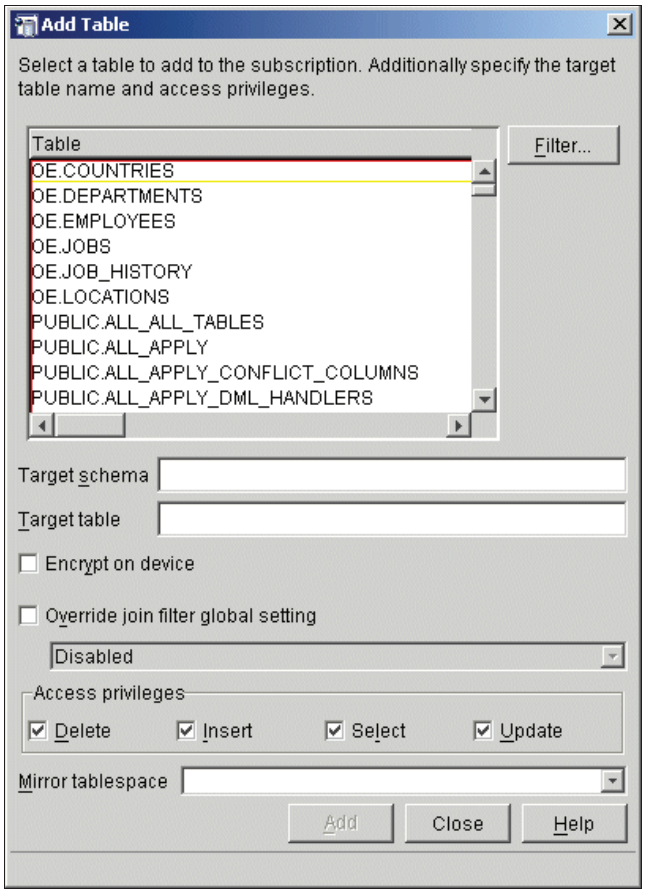


Figure 4-10 Available tables

13. Enter a suitable filter to reduce the scope. A percentage sign (%) is the wildcard character. Click **OK**.

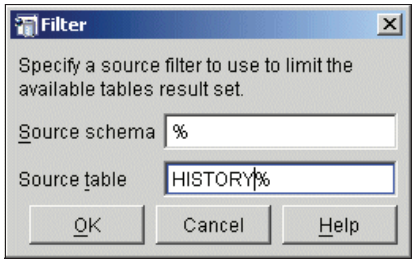


Figure 4-11 Filter the number of tables to view

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14. Now the number of displayed tables is greatly reduced.

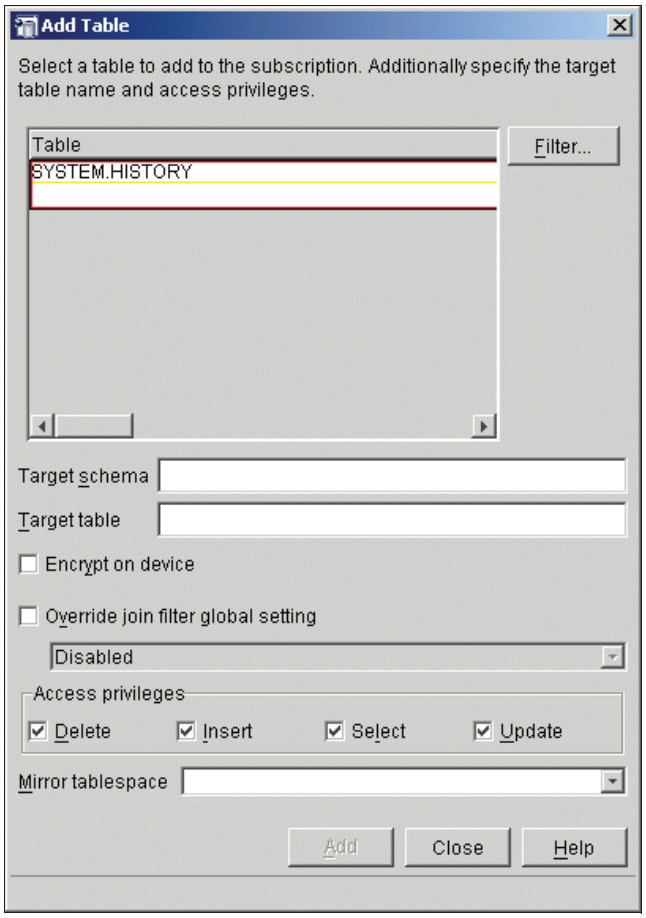


Figure 4-12 Filtered table view

15. Choose the table of interest and modify the Target schema and Target table name if necessary. Click **Add.**

16. Add more tables if desired. When done, click **Close**.

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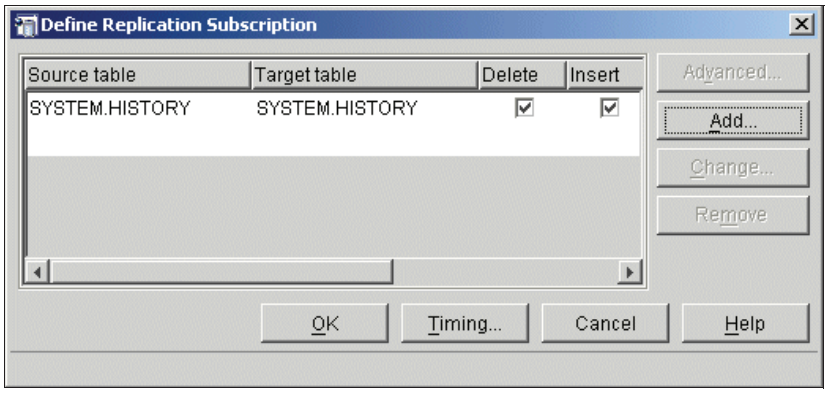


Figure 4-13 The table to sync

17. Click **Timing** and modify the replication interval. For large tables, leave sufficient time.
18. Click **OK** and **OK** again.
19. If the source database is big, it takes a longer time to create the subscription. When done, it returns to the MDAC window, with the created subscription shown in the right pane.

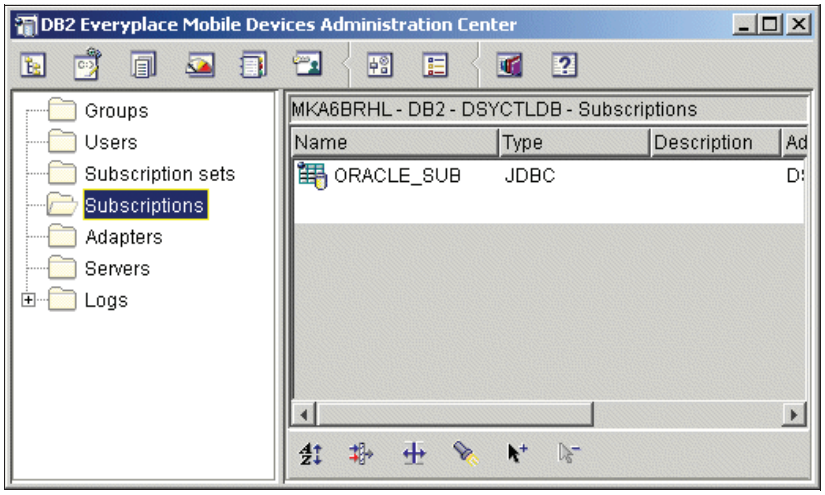


Figure 4-14 Subscription created

20. Right-click the **Replication** folder under Logs and choose **Refresh**. Make sure that the replication started and ended successfully for the mirror database you configured.

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The subscription is now ready for use.

4.2.3 Create an upload subscription

As explained in 3.10.2, “Upload subscription” on page 247, an upload subscription is for one-way data transfer between client and server databases. With the Oracle source database, the client is able to upload changes in the DB2 Everyplace database to the Oracle source database. This scenario is illustrated in Figure 4-15.

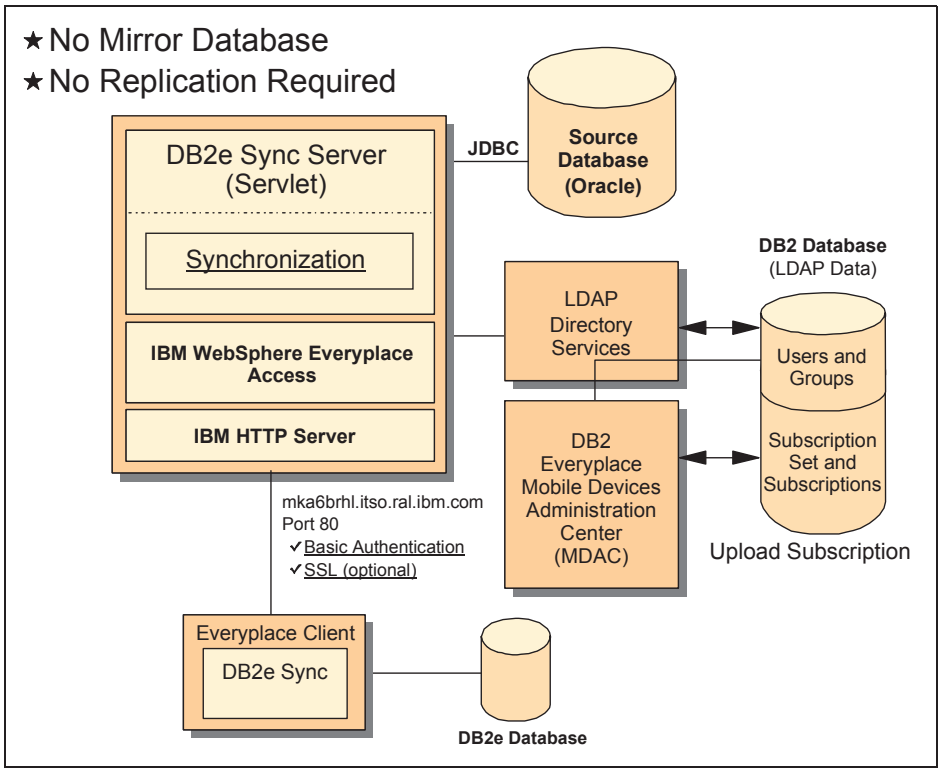


Figure 4-15 Upload subscription - Sample scenario

You can create an upload subscription by following these steps:

1. Open the Mobile Devices Administration Center by clicking **Start -> Programs -> IBM DB2 Everyplace -> Start Mobile Device Administration Center**.
2. In Mobile Devices Administration Center, select **Subscription -> Create -> Table Subscription -> Upload subscription**.

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3. The Create Upload Subscription wizard opens. On the Identification tab, type a name for this subscription, for example, SalesHistory. Optionally, enter a description for this subscription.
4. Click the **Source** tab. Choose the **Oracle** database driver by clicking the down arrow next to the Driver field.

   Enter the correct database URL in the Database URL field, for example:

   ```
   jdbc:oracle:thin:@oracledbs.itso.ral.ibm.com:1521:sales
   ```

   Enter the user ID and password that can access the Oracle source database.

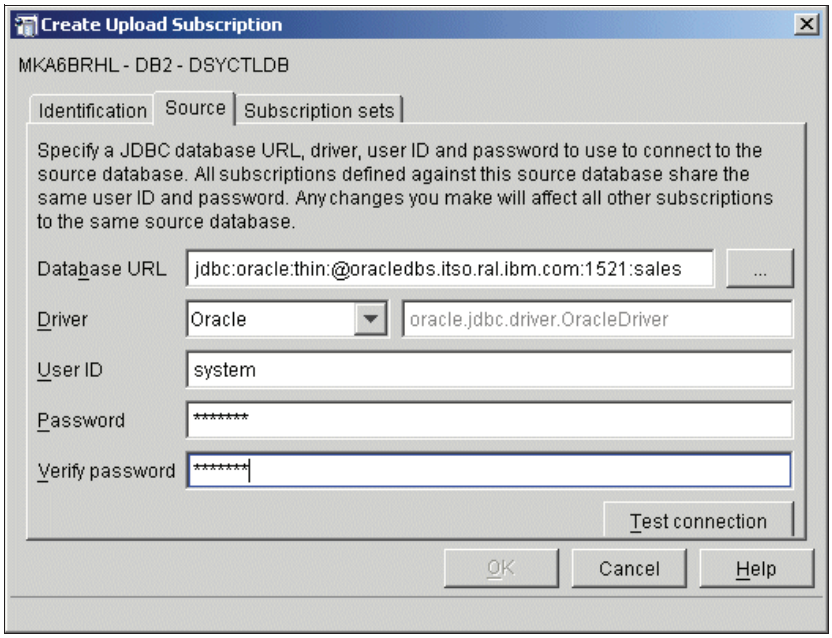


Figure 4-16 Define Oracle source database

5. Click the **Test connection** button to verify that the connection can be established.
6. Click the **Subscription sets** tab. Select the subscription sets this subscription will belong to and click **>** or **>>** to bring it to the Selected subscription sets pane. You can also click **Create** to create a new subscription set.
7. Click the **Identification** tab again. Click the **Define subscription** button. The Define Upload Subscription wizard opens.
8. Click **Add**. There is probably a message informing you that there are too many tables available to choose from. Click **Close**.

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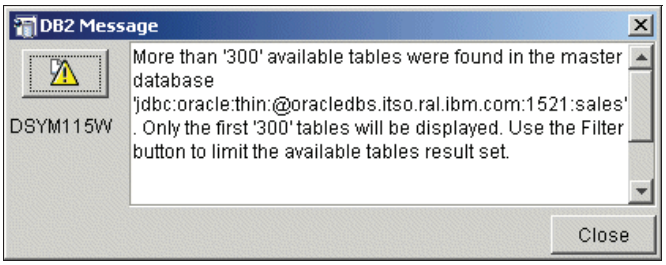


Figure 4-17 Too many tables to display

9. The available tables are shown. If you cannot find the table you want to configure with, click the **Filter** button.
10. Enter a suitable filter to reduce the scope. A percentage sign (%) is the wildcard character. Click **OK**.

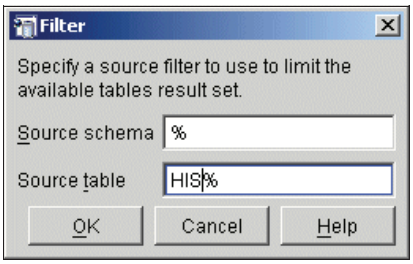


Figure 4-18 Filter the number of tables to view

11. Now the number of displayed tables is greatly reduced.

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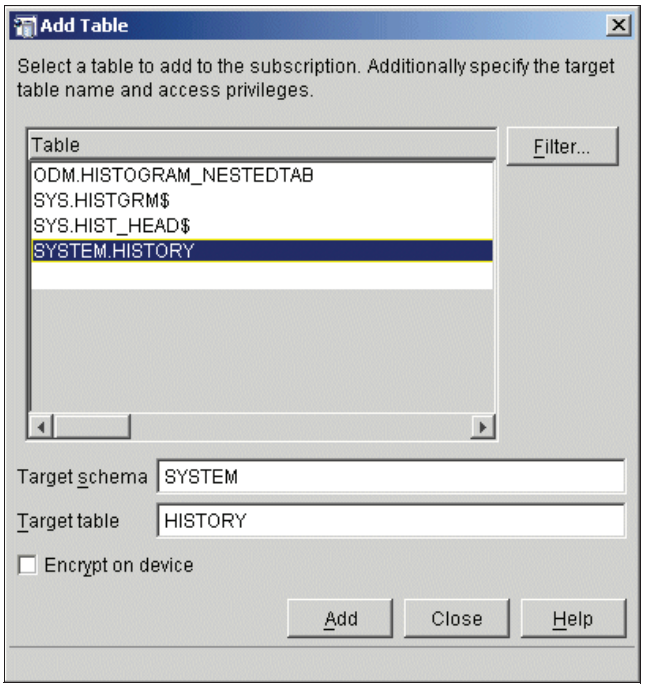


Figure 4-19 Filtered table view

12. Choose the table of interest and modify the Target schema and Target table name if necessary. Click **Add**.
13. Add more tables if desired. When done, click **Close**.
14. Click **OK** and **OK**. The upload subscription is created.

4.3 Sample dsysetjavahome.bat file

Below we provide a sample dsysetjavahome.bat file.

Example 4-2 Sample dsysetjavahome.bat file

```
@echo off
rem ------------------------------------------------------------------------
rem (C) COPYRIGHT International Business Machines Corp. 2000-2003
rem All Rights Reserved
rem
rem US Government Users Restricted Rights - Use, duplication or
rem disclosure restricted by GSA ADP Schedule Contract with IBM Corp.
rem
```

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```
rem dsysetjavahome.bat: set the java/jre path & classpath
rem ------------------------------------------------------------------------
for %%i in ("%DSYINSTDIR%") do (set DSY_INSTDIR=%%~sfi)

set JAVA_HOME=C:\WebSphere\DB2Everyplace/Uninstaller/jvm/jre

rem for jdk 1.2.X and 1.3.X
SET JDK_EXTRA_CP=.

rem for jdk 1.1.X
rem SET
JDK_EXTRA_CP=%DSYSQLLIBINSTDIR%\java\jre\lib\i18n.jar;%DSYSQLLIBINSTDIR%\java\j
re\lib\rt.jar;%DSYSQLLIBINSTDIR%\java\swingall.jar

rem jdbc drivers
SET JDBC_DRV_CP=c:\oracle\ora92\jdbc\lib\classes12.zip
```

4.4 Synchronize with remote Oracle database

To create a subscription to synchronize with the Oracle data source that is on a separate machine, follow the same steps illustrated in 4.2, “Create a subscription with Oracle data source” on page 257.

4.5 Hints and tips

In addition to the hints and tips given in 3.13, “Hints and tips” on page 253, consider the following:

- If you get the following error, check to make sure the Oracle JDBC driver is in the classpath of IBM DB2 Everyplace Server, and that this server has been properly restarted with no errors.

  ```
  DSYD007, MDSS connection pool encountered the exception: unable to register
  JDBC driver for ......
  ```

- If you cannot make a test connection within MDAC to the Oracle database, check to make sure JDBC_DRV_CP is properly configured in dsysetjavahome.bat, and IBM DB2 Everyplace Server has been restarted to take in the change.

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A

Sample Oracle Enterprise Edition installation

This appendix describes a sample installation of Oracle. It also gives an example of how to create a simple database using wizards. This appendix is intended for those who have no experience with Oracle databases.

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Oracle installation

In this sample installation, Oracle9i Enterprise Edition, Release 2 (9.2.01) for Microsoft Windows 2000 and Windows NT® is used.

1. Insert the CD titled Oracle9i Server into the CD-ROM drive.
2. The CD runs automatically and displays a selection window.

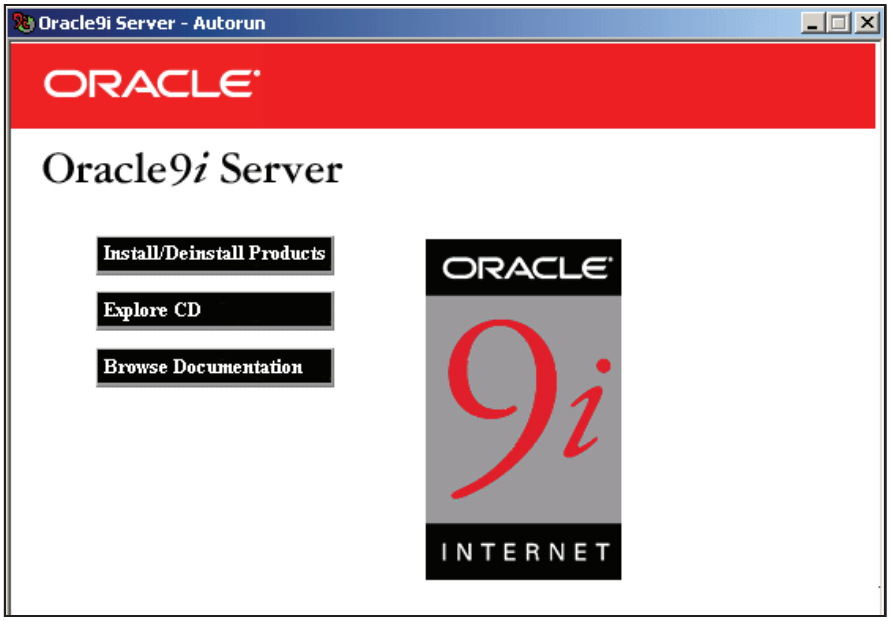


Figure A-1 Selection window

3. Click the **Install/Deinstall Products** button. The Welcome window is displayed.

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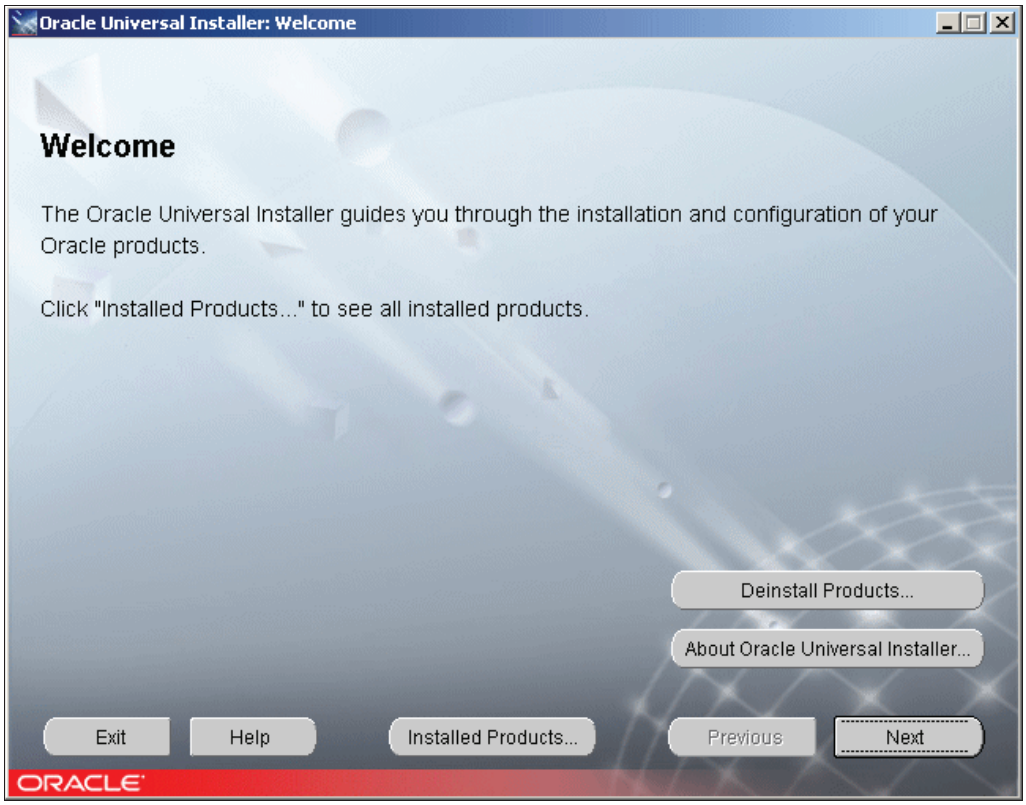


Figure A-2 Welcome window

Click **Next**.

4. In the File Locations window, accept the defaults or enter file location information. Click **Next**.

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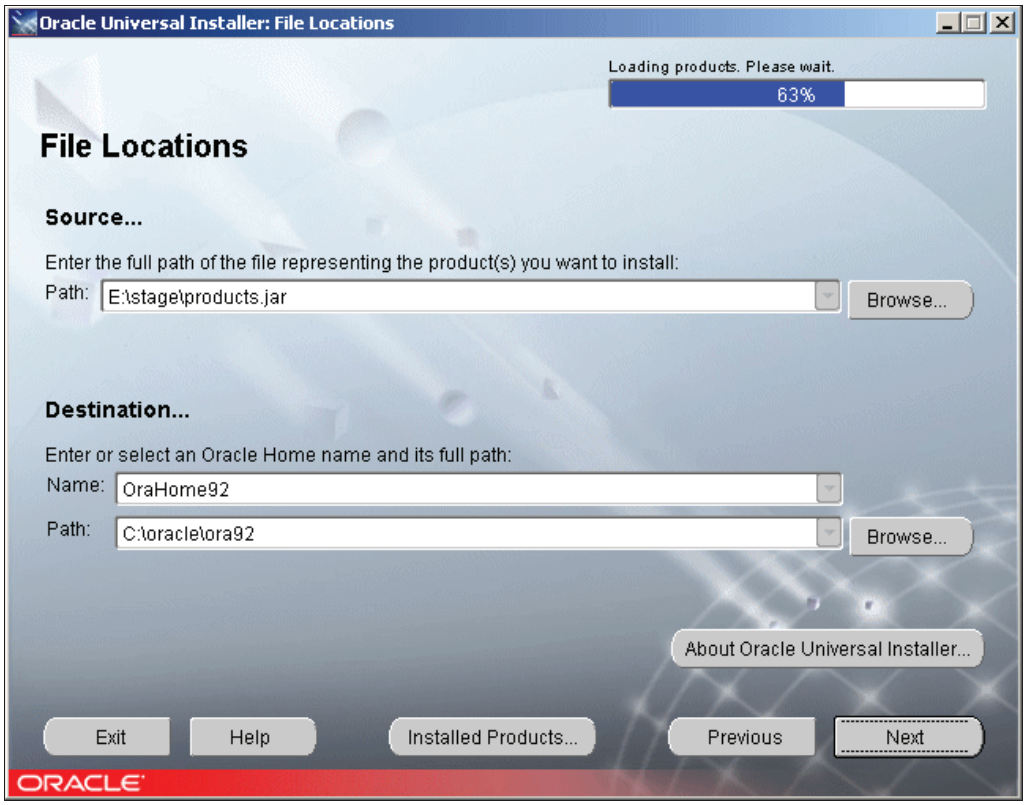


Figure A-3 Specify file locations

5. When the files are loaded, a list of available products is displayed. Select **Oracle9i Database 9.2.0.1.0** and click **Next**.

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Figure A-4 Select product to install

6. Choose **Enterprise Edition** or **Standard Edition** as the installation type. Click **Next**.

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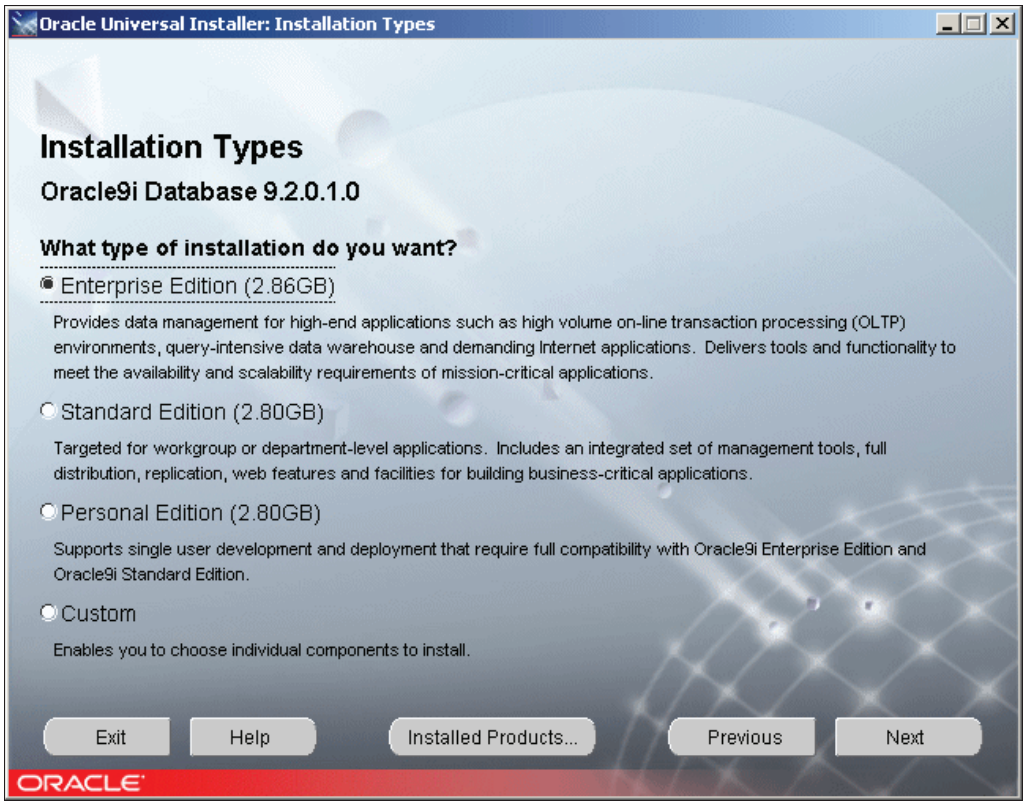


Figure A-5 Choose installation type

7. Select the database configuration adjusted to your needs. In this case, select **General Purpose**. Click **Next**.

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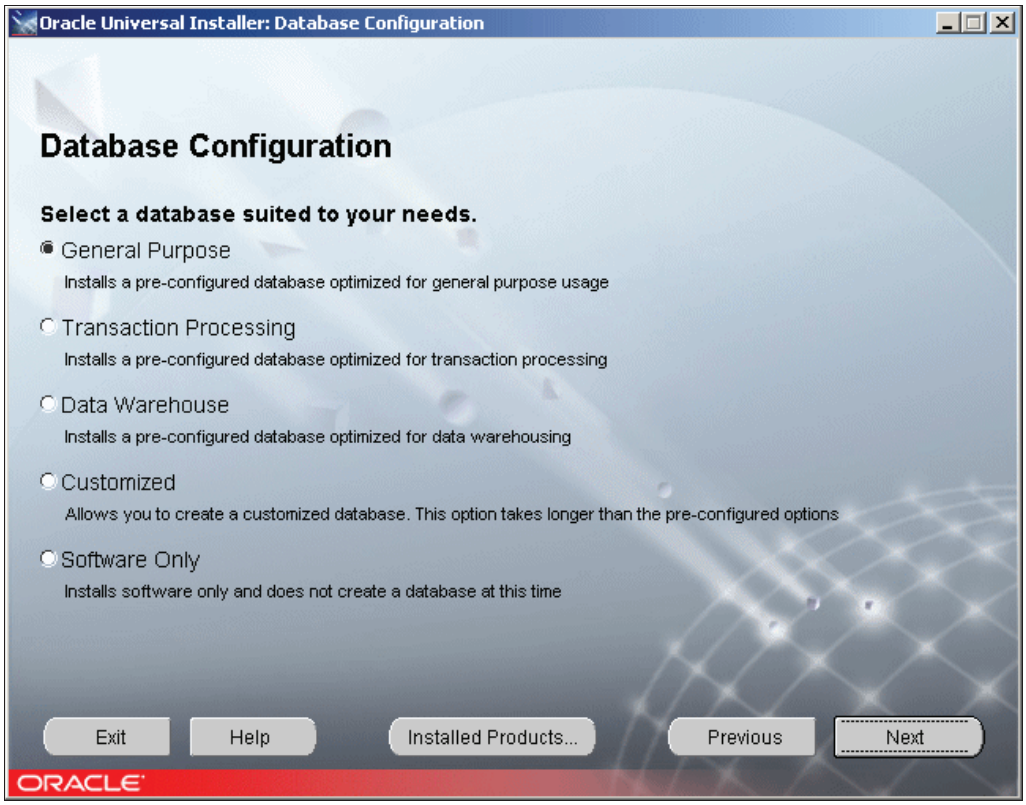


Figure A-6 Loading installation files

8. Enter a port number that is free in your machine or accept the default. Click **Next**.

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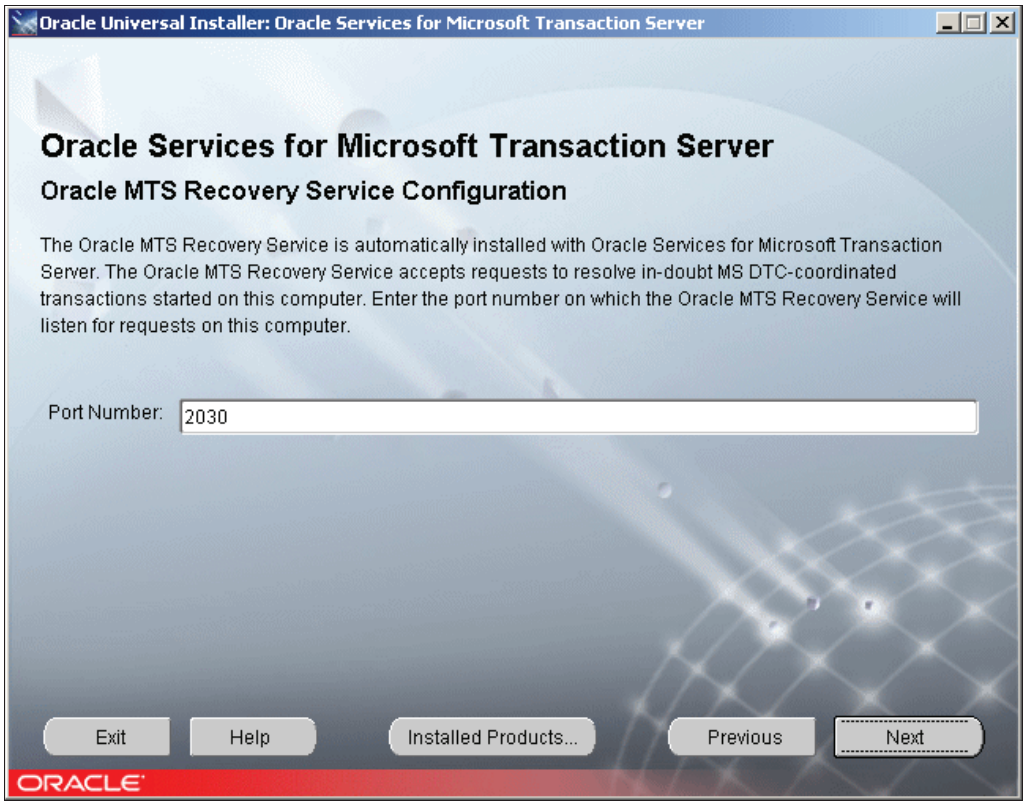


Figure A-7 Choose the port number for Oracle MTS Recovery Service

9. In the next window, fill in the Global Database Name and System Identifier (SID) fields.

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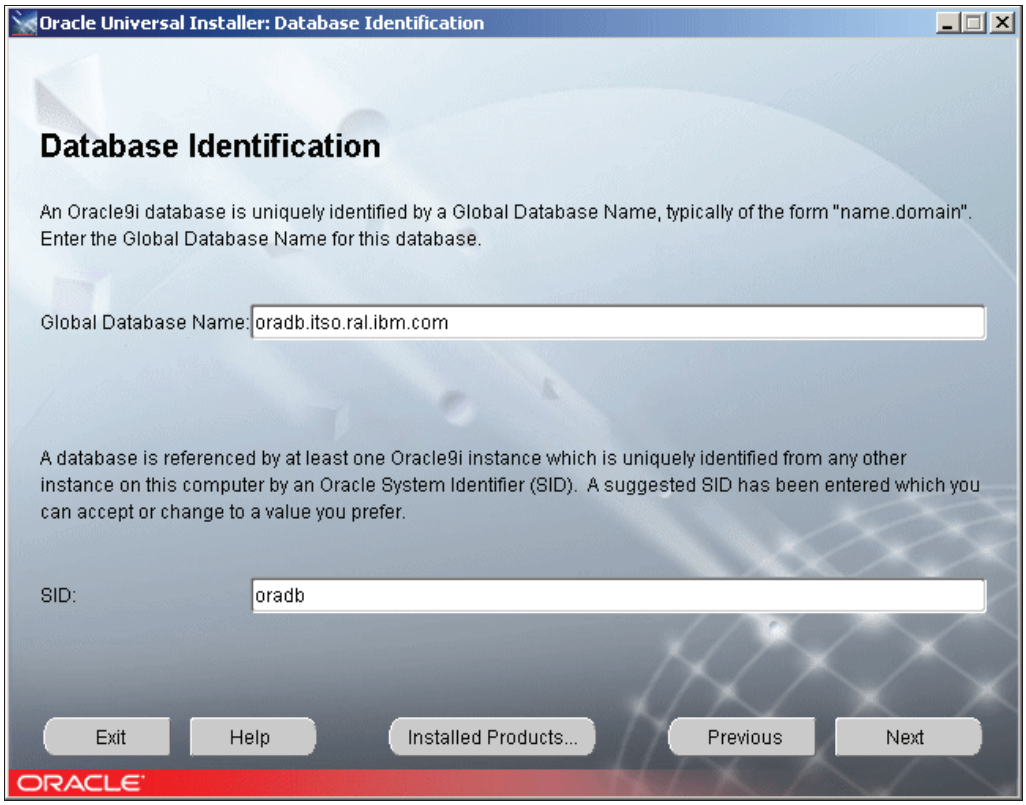


Figure A-8 Enter Global Database Name and SID

10. Choose the directory for your database files. Click **Next**.

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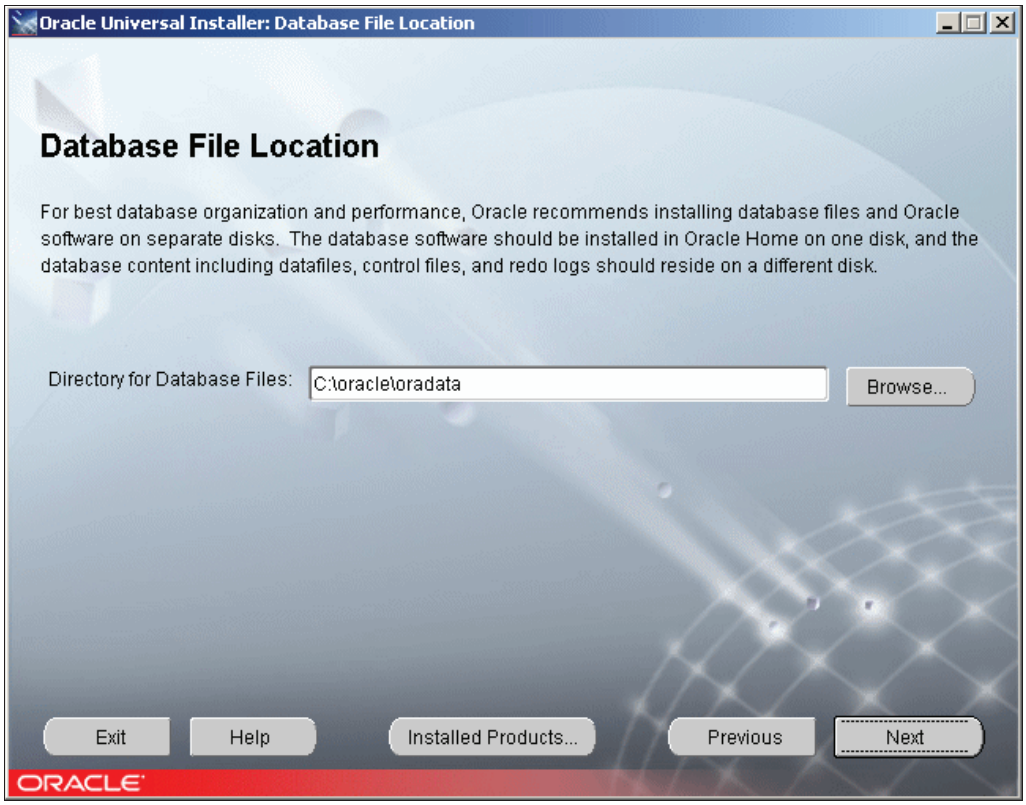


Figure A-9 Choosing the database file location

11. Choose the database character set or use the machine default. Click **Next**.

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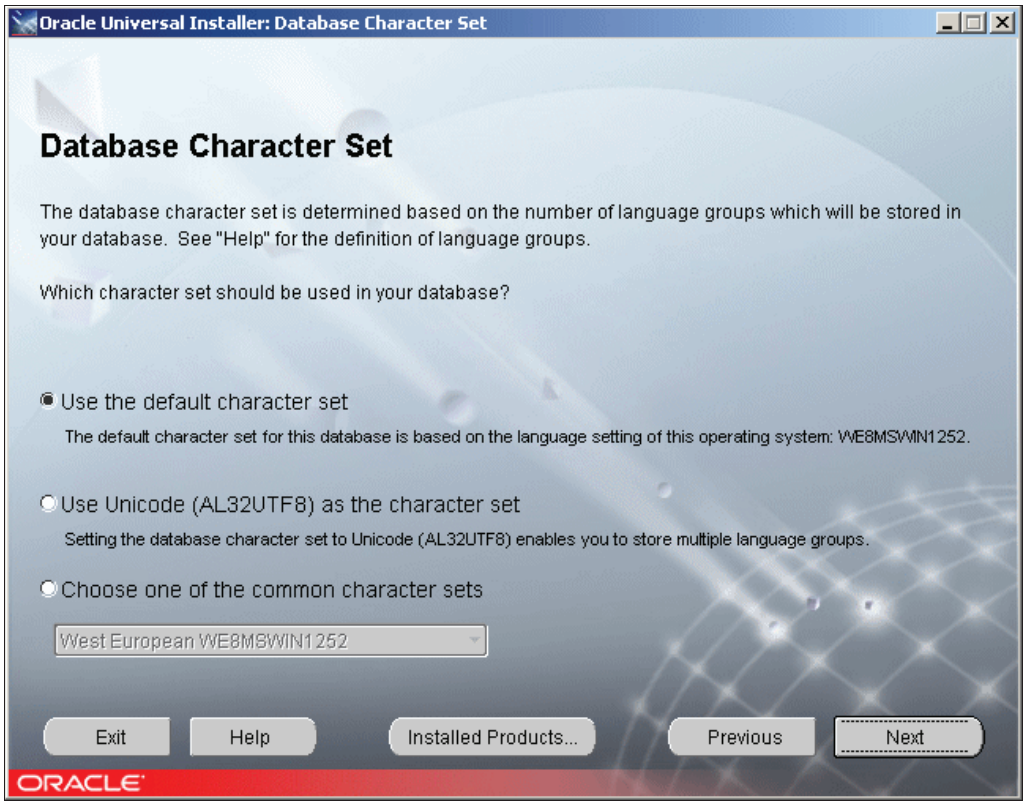


Figure A-10 Choosing the database character set

12. A summary of this installation is displayed. Review it and click **Install**.

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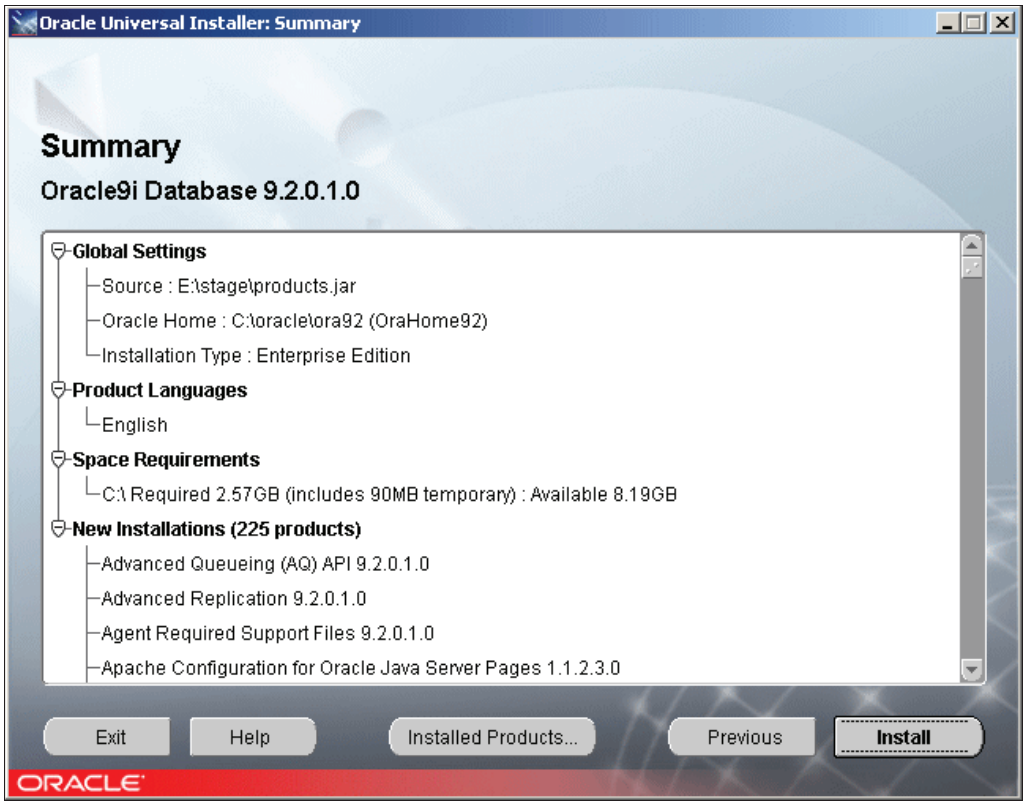


Figure A-11 Summary window

13. The installer starts installing.

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Figure A-12 Installing Oracle Database program files

14. During the installation, the installer asks you to insert the next disk. When you are done, click **OK**.



Figure A-13 Changing the installer disk

15. Specify the passwords for the SYSTEM and SYS users. Click **OK**.

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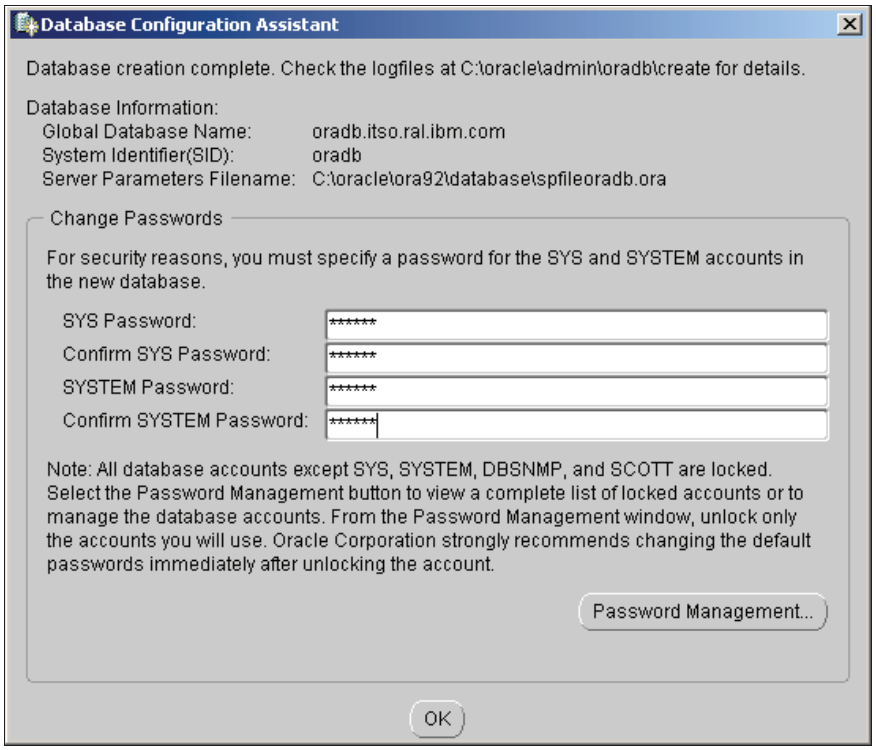


Figure A-14 Specifying the passwords for the SYS and SYSTEM users

16. Wait while the installer configures the tools for the database.

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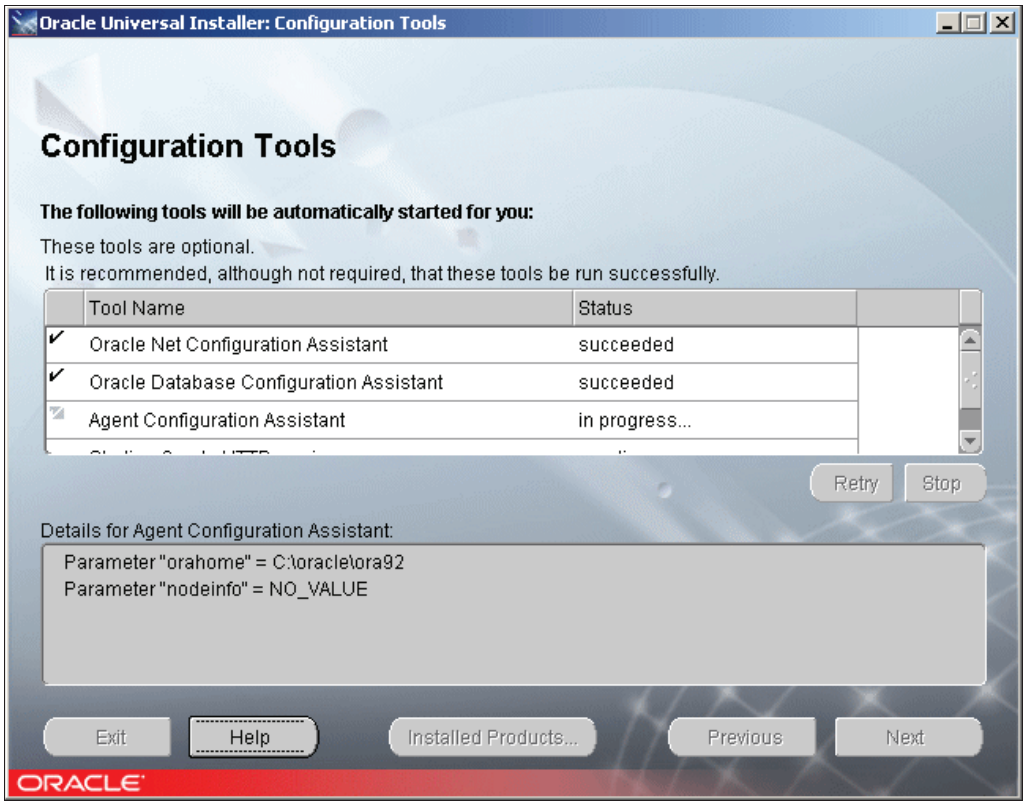


Figure A-15 Configuring tools

17. At the end of the installation, a success message is shown. Click **Exit**.

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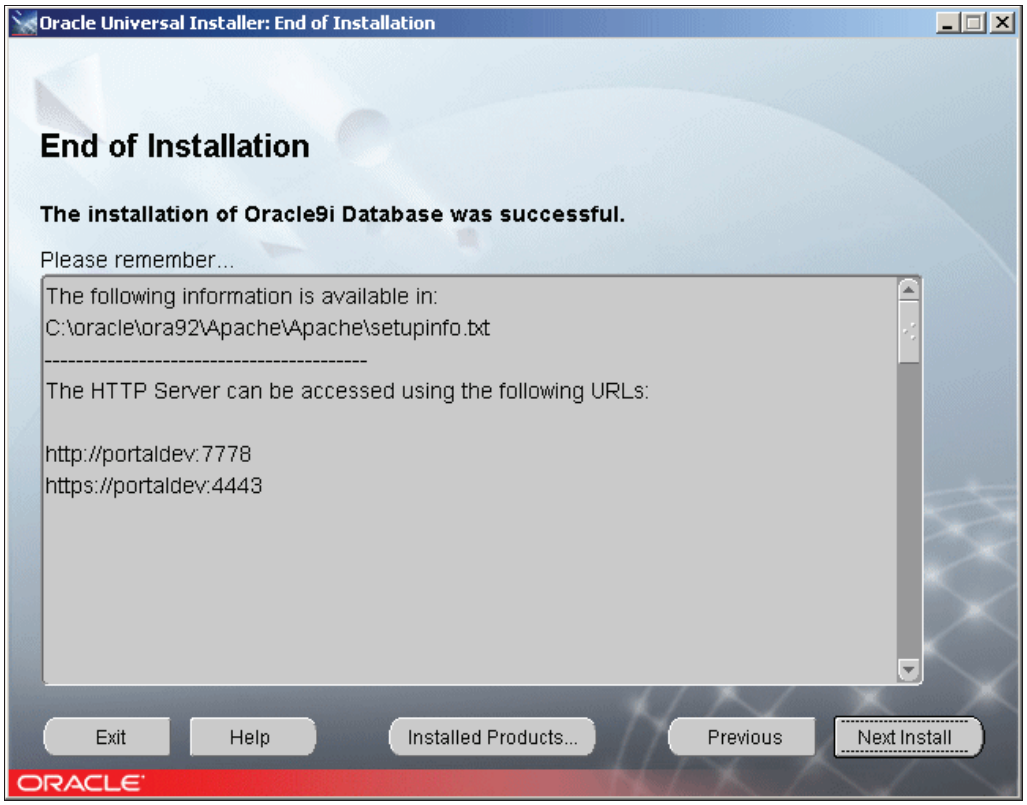


Figure A-16 Installation is successful

The Oracle Enterprise Manager is launched. You can close it. The Oracle database has been successfully installed.

Create a simple database using wizards

To create a simple sample database called SALES, do the following:

1. Click **Start -> Programs -> Oracle - OraHome92 -> Configuration and Migration Tools -> Database Configuration Assistant**.
2. The Welcome window appears. Click **Next**.

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Figure A-17 Welcome to the Database Configuration wizard

3. Select **Create a database**. Click **Next**.

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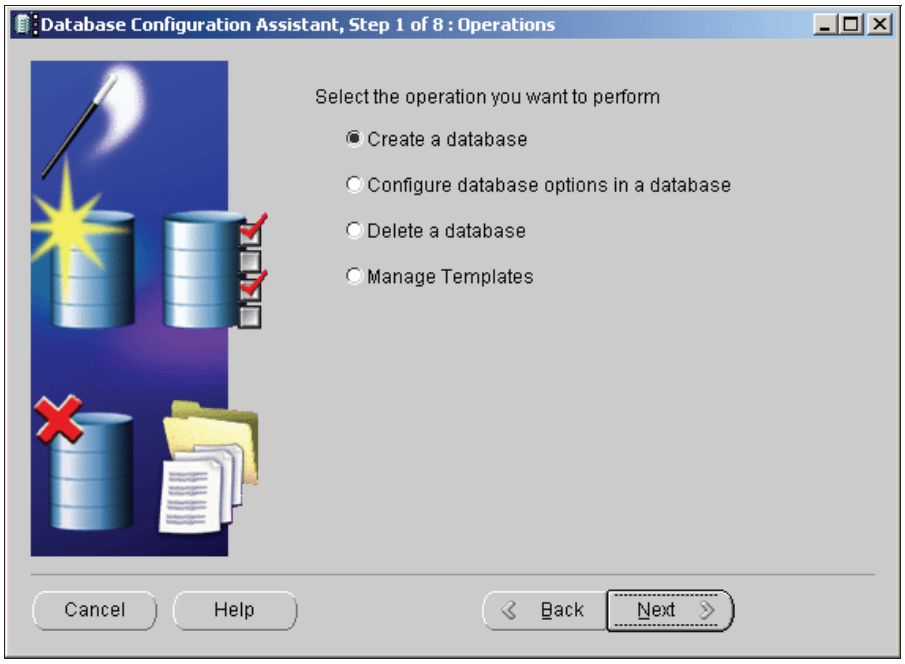


Figure A-18 Database Configuration Assistant

4. Select **General Purpose**. Click **Next**.

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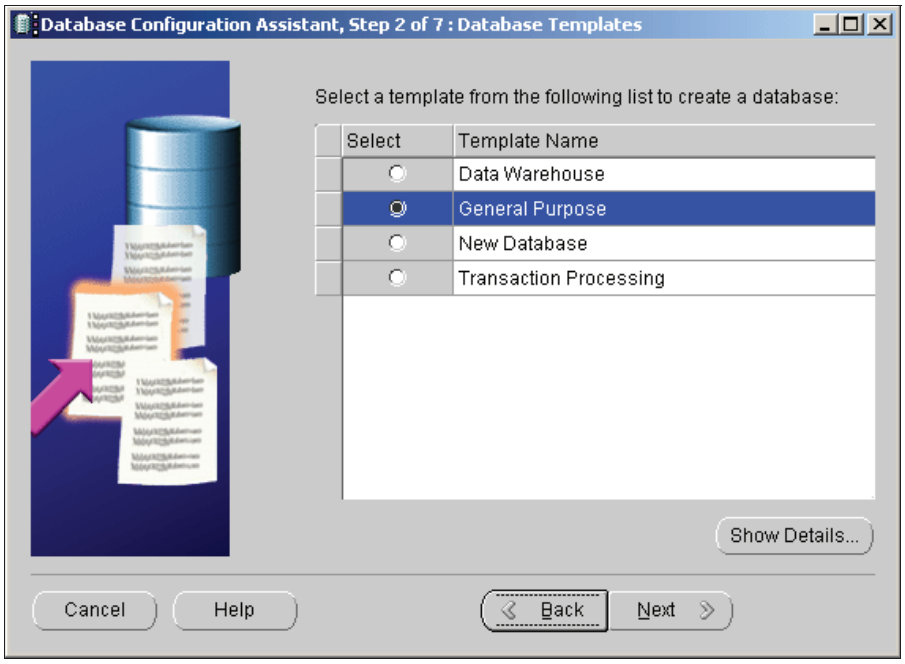


Figure A-19 Database type

5. Specify the name and System Identifier (SID) of the database to be created, for example, sales.itso.ral.ibm.com and sales. Click **Finish**.

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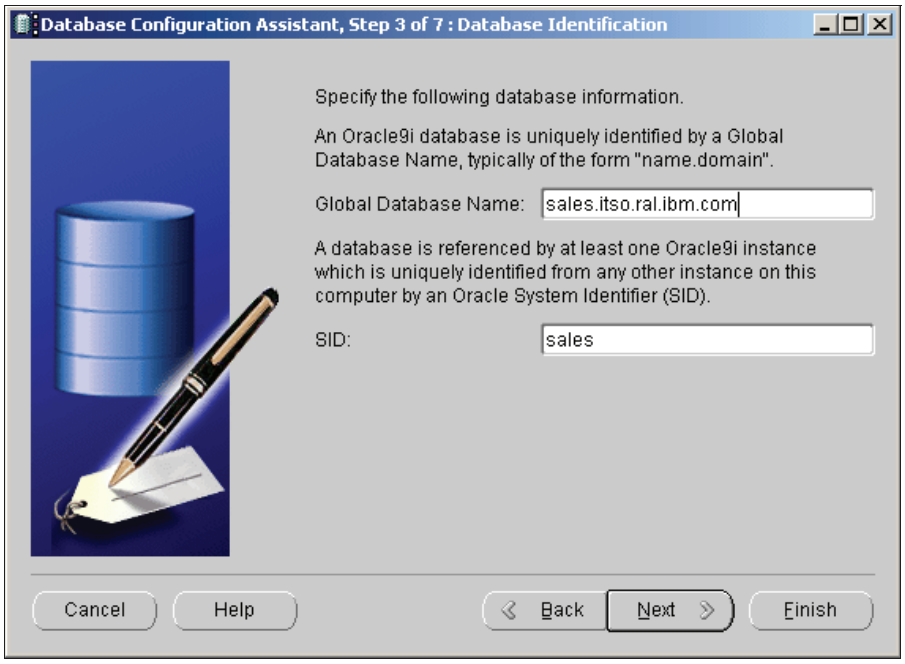


Figure A-20 Set database identification

6. A summary window with the configuration of the new database appears. Click **OK**.
7. The database creation process starts. Depending on the options selected earlier, this may take quite some time.

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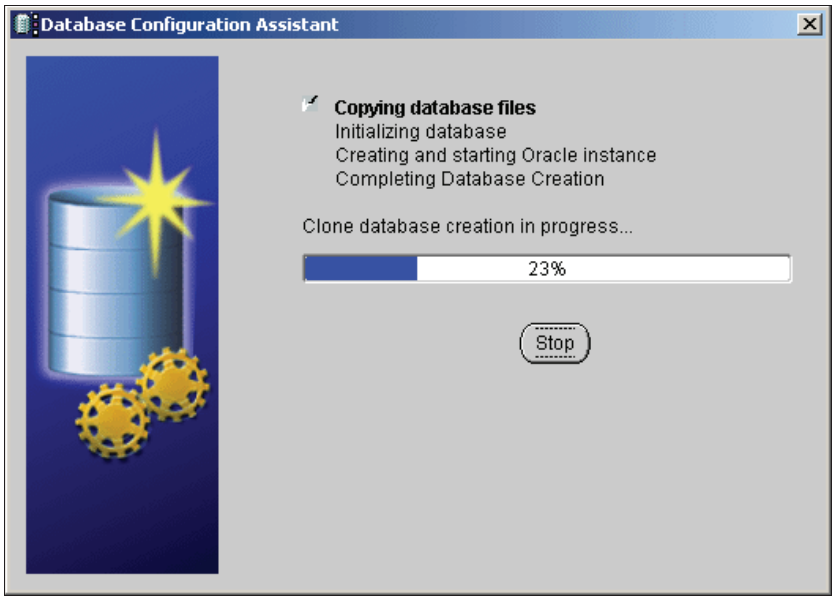


Figure A-21 Creating database

8. Specify the passwords for the SYS and SYSTEM users. Click **Exit** to finish.

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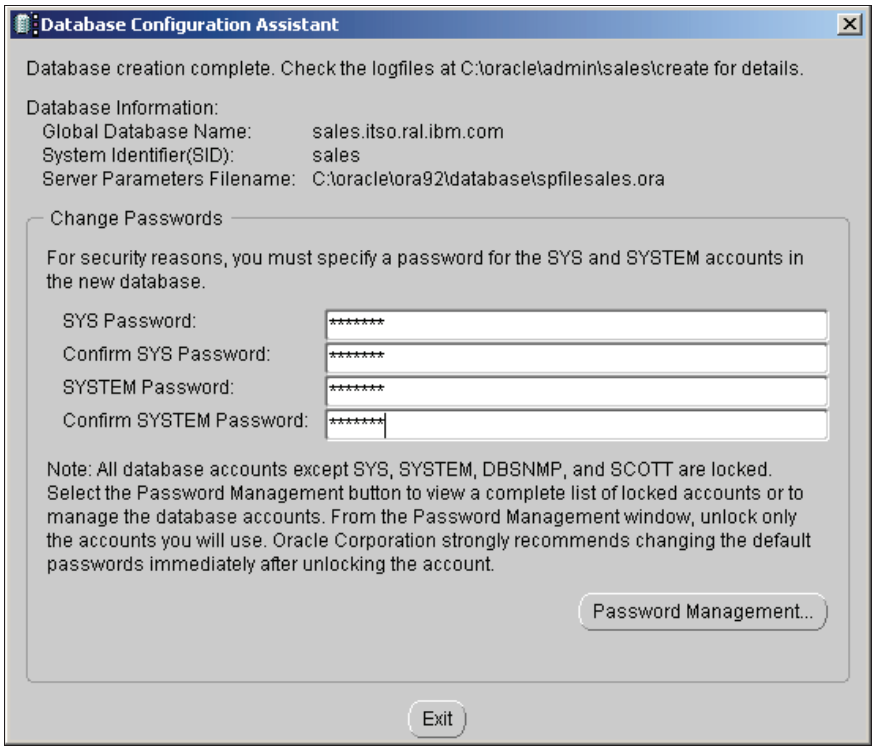


Figure A-22 Database created

The simple database has been created successfully.

Create simple table using wizards

To create a table called HISTORY in our simple sample database SALES, do the following:

1. To start the Enterprise Manager Console, click **Start -> Programs -> Oracle - OraHome92 -> Enterprise Manager Console**. On the Oracle Enterprise Manager login window choose **Launch standalone** and click **OK**.

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Figure A-23 Running Enterprise Manager Console in standalone mode

2. On the tree view, double-click **Network -> Databases -> SALES.ITSO.RAL.IBM.COM** to open the SALES database administrative console.

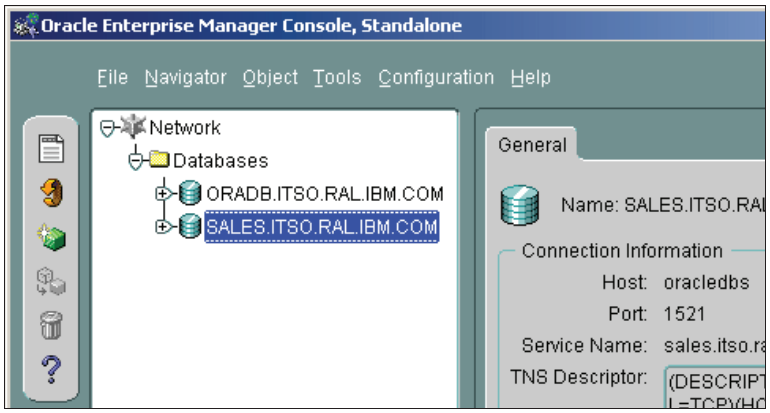


Figure A-24 Opening the SALES database administrative console

3. Enter the administrator's user name and password. Click **OK**.

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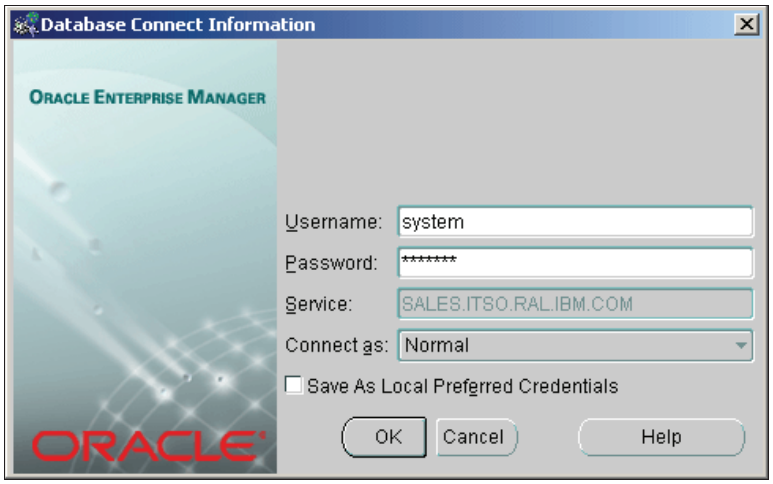


Figure A-25 Enter administrator's username and password

4. Expand the Schema object for database SALES. Expand the SYSTEM schema. Right-click **Tables** and select **Create Using Wizard**.

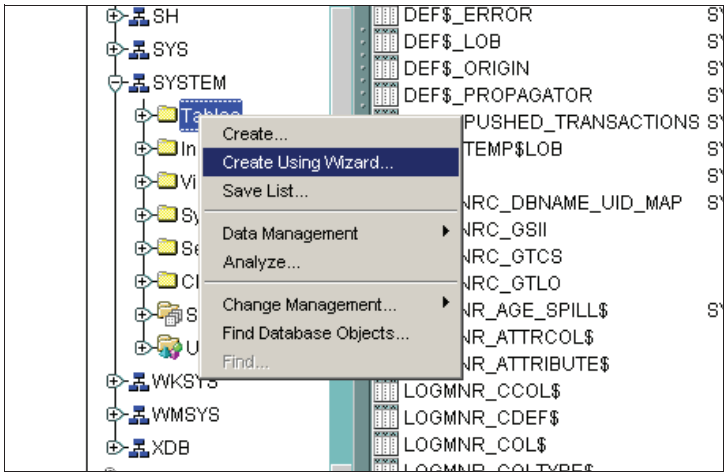


Figure A-26 Create table using wizard

5. Enter a name for the new table to be created, for example, HISTORY. Click **Next**.

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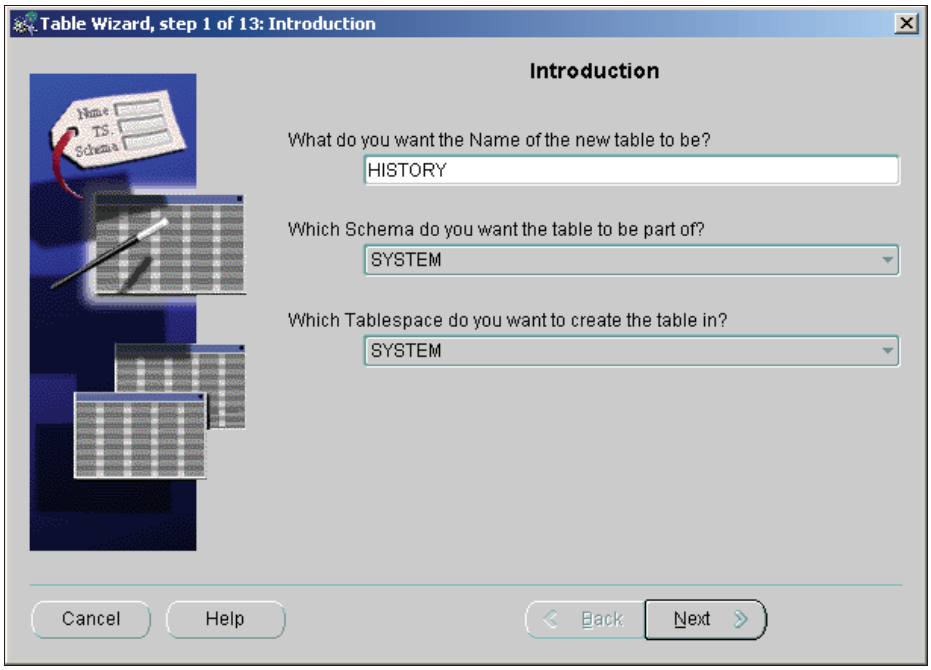


Figure A-27 Specify table name

6. Specify all the columns in the table. Click **Add** for each column to bring it to the Columns defined list. When you finish, click **Next**.

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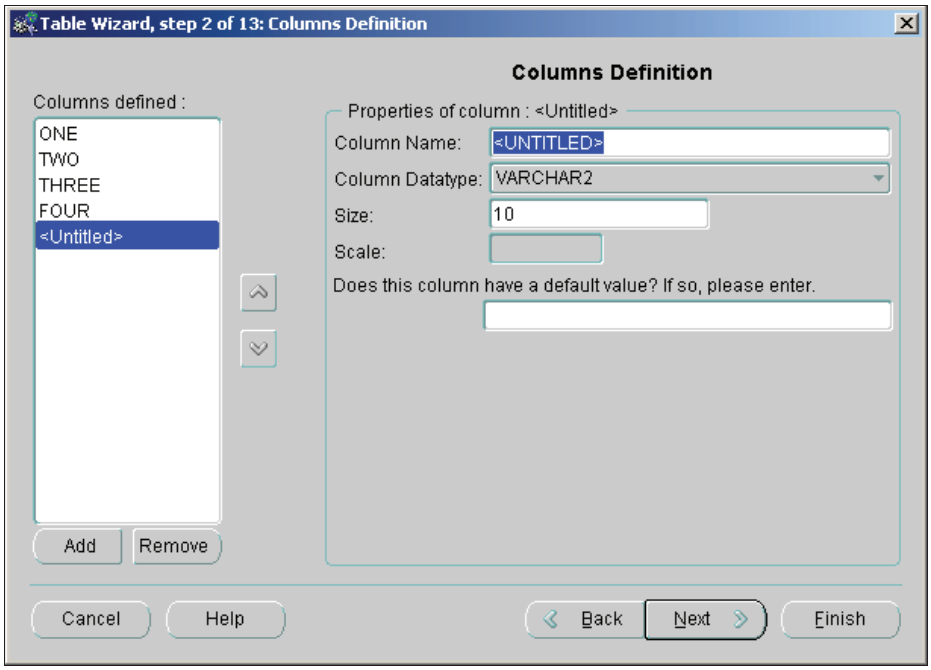


Figure A-28 Add columns

7. Define primary keys by clicking in the Order column. Click **Next**.

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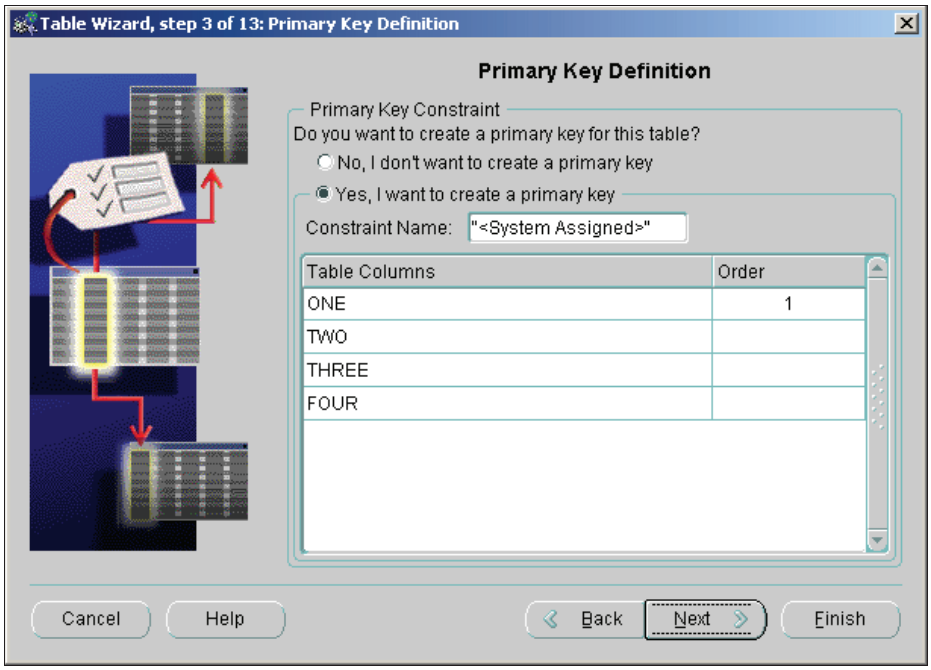


Figure A-29 Define primary keys

8. Specify for each column whether it is nullable and whether it must have unique values. In our example, all columns are not nullable, and they do not have to have unique values. Click **Next**.

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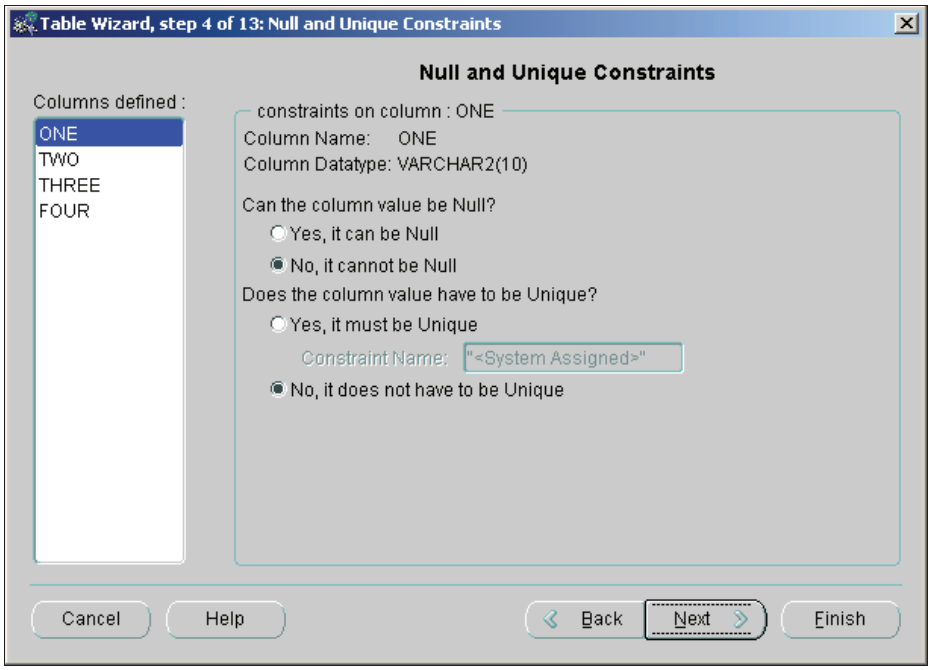


Figure A-30 Null and unique constraints

9. Specify for each column whether it is a foreign key. In our example, they are not. Click **Next**.

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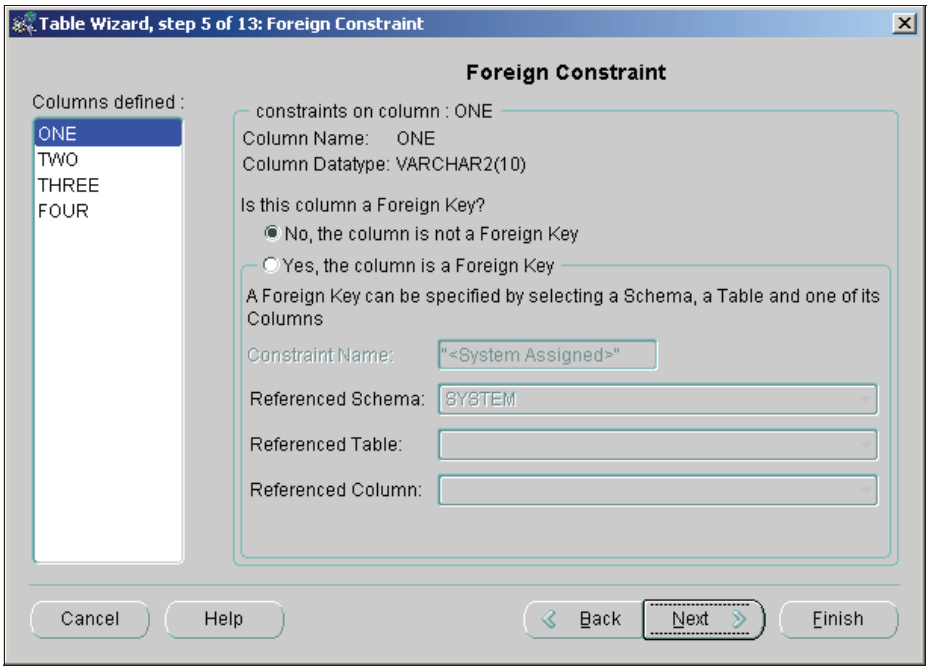


Figure A-31 Foreign constraint

10. Specify for each column whether it has check constraints. In our example, they do not. Click **Next**.

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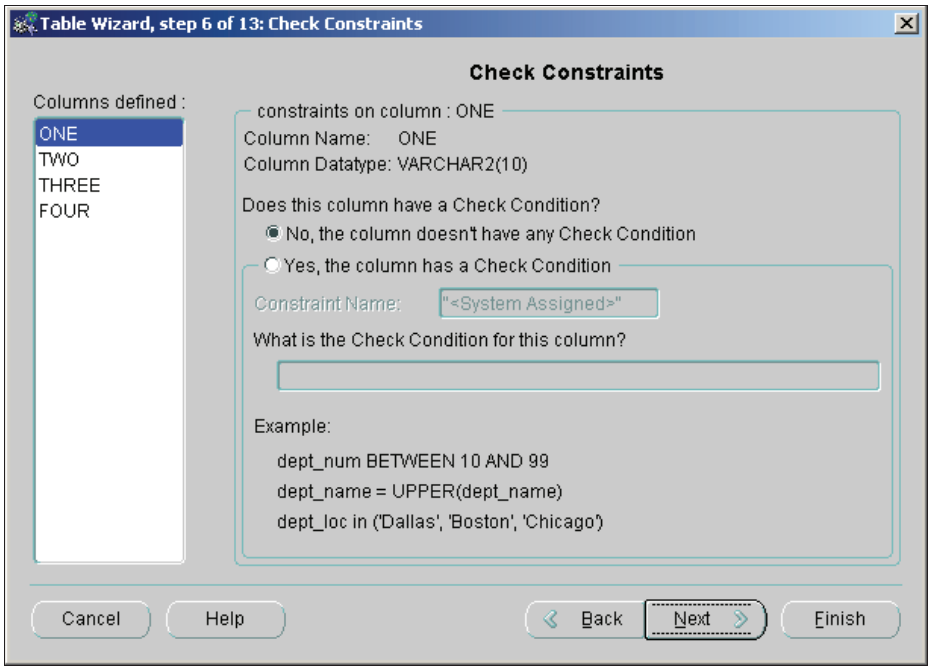


Figure A-32 Check constraints

11. Click **Next** in the Storage Information window.

12. All the necessary information has been collected, and a summary is shown. Click **Finish**.

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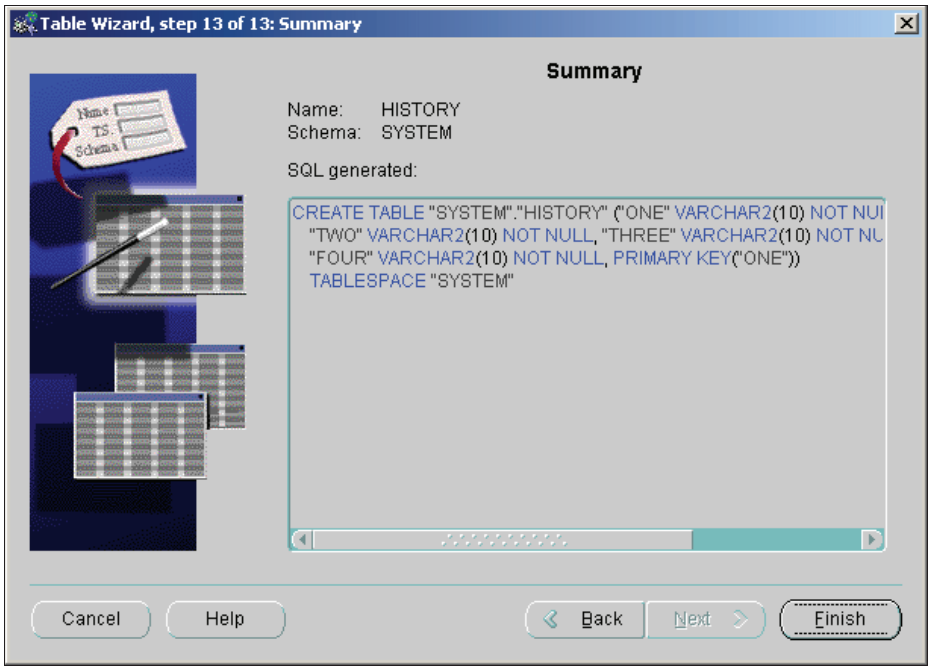


Figure A-33 Summary

13. The table is created. A success message is shown. Click **OK** to close it.

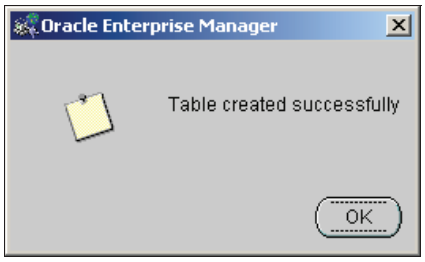


Figure A-34 Table created successfully

14. The newly created table should appear in Enterprise Manager now.

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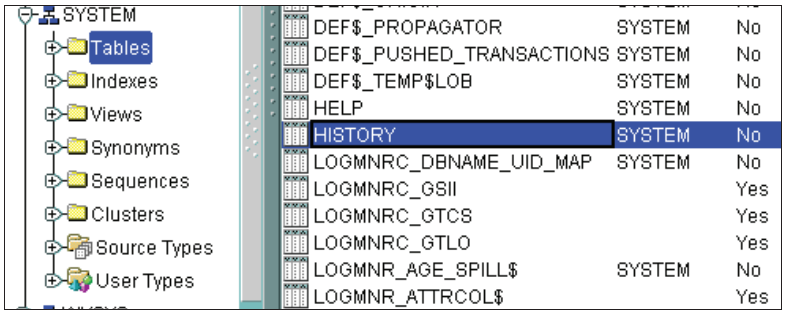


Figure A-35 Newly created table shown in Enterprise Manager

Populate table with data

There are various ways to populate the newly created table with data. You can use the SQLPlus Worksheet tool, or the more traditional SQLPlus. In addition, you can also use a Java program using the JDBC API to populate database tables.

For more information about the tools and the database itself, visit the Oracle Technology Network site at:

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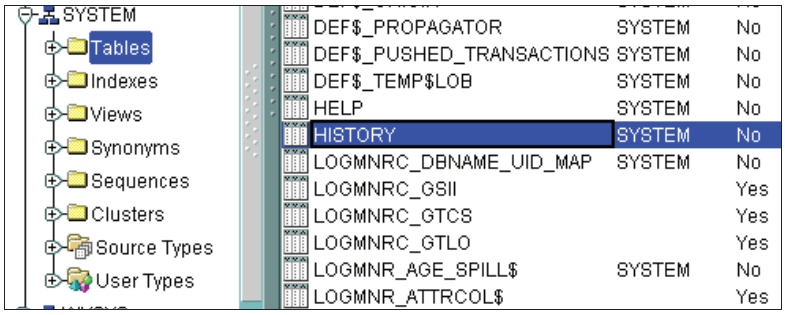


Figure A-35 Newly created table shown in Enterprise Manager

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Related publications

The publications listed in this section are considered particularly suitable for a more detailed discussion of the topics covered in this redbook.

IBM Redbooks

For information on ordering these publications, see “How to get IBM Redbooks” on page 307. Note that some of the documents referenced here may be available in softcopy only.

- *Getting the Most From Your Domino Directory*, SG24-5986
- *IBM Replication Solutions for Pervasive Computing with DB2 Everyplace and DB2 Satellite Edition*, SG24-6217
- *IBM WebSphere Everyplace Access V5 Handbook for Developers and Administrators Volume I: Installation and Administration,* SG24-6462
- *IBM WebSphere Everyplace Access V5 Handbook for Developers and Administrators Volume II: Application Development,* SG24-6463
- *IBM WebSphere Everyplace Access V5 Handbook for Developers and Administrators Volume III: E-Mail and Database Synchronization,* SG24-6676
- *IBM WebSphere Everyplace Access V5 Handbook for Developers and Administrators Volume IV: Advanced Topics,* SG24-6677
- *IBM WebSphere Everyplace Access Version 4.3 Handbook for Developers,* SG24-7015-01
- *IBM WebSphere Everyplace Connection Manager V5 Handbook,* SG24-7049
- *IBM WebSphere Everyplace Server Service Provider and Enable Offerings: Enterprise Wireless Applications*, SG24-6519
- *IBM WebSphere Portal V5 A Guide for Portlet Application Development*, SG24-6076
- *RDB Synchronization, Transcoding and LDAP Directory Services in IBM WebSphere Everyplace Access Version 4.1.1,* SG24-6856

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Other publications

These publications are also relevant as further information sources:

- *IBM DB2 Everyplace Synchronization Server Administration Guide 7.2*, SC27-0845
- *DB2 Everyplace Application Development Guide Version 8 Release 1*, SC18-7185
- *IBM DB2 Everyplace Synchronization Server Administration Guide Version 8 Release 1,* SC18-7186

Online resources

These Web sites and URLs are also relevant as further information sources:

- WebSphere Everyplace Access:

  `http://www.ibm.com/software/pervasive/ws_everyplace_access`
- WebSphere Portal:

  `http://www.ibm.com/software/websphere/portal`
- WebSphere Application Server:

  `http://www.ibm.com/software/webservers/appserv`
- Lightweight Directory Access Protocol standard:

  `http://www.ietf.org/rfc/rfc1777.txt`
- WebSphere Studio:

  `http://www.ibm.com/software/websphere/studio/`
- WebSphere Transcoding Publisher:

  `http://www.ibm.com/software/webservers/transcoding`
- Lotus product information:

  `http://www.lotus.com/home.nsf/welcome/products`
- WebSphere Everyplace Suite:

  `http://www.ibm.com/pvc/products/wes_provider/index.shtml`
- Java Community Process, JSR 168:

  `http://jcp.org/jsr/detail/168.jsp`

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Volume III: E-Mail and Database Synchronization



Synchronize DB2 Everyplace data and server-side DB2 databases

Synchronize Domino and Exchange e-Mail

Synchronize with JDBC databases

This IBM Redbook is part of a series of four volumes related to WebSphere Everyplace Access Version 5.0. These books will help you plan, install, administer, and develop mobile applications to run in a WebSphere Everyplace Access Version 5.0 environment. The information provided in these books targets business-to-employee (B2E) enterprise applications, but most of the scenarios presented apply to business-to-consumer (B2C) applications as well. These books provide step-by-step examples and scenarios showing ways to integrate your enterprise applications into a WebSphere Everyplace Access environment using the WebSphere Studio Site Developer and the Everyplace Toolkit, as well as extend your online and offline application capabilities to use other advanced functions.

This book also contains step-by-step sample scenarios showing ways to synchronize Domino and Microsoft Exchange e-Mail servers as well as relational JDBC databases with DB2 Everyplace databases on your client devices such as Pocket PCs and Palm devices.

A basic knowledge of Java technologies such as servlets, JavaBeans, EJBs, JavaServer Pages (JSPs), as well as XML applications and the terminology used in Web publishing, is assumed.

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