

IBM DB2 Everyplace



# Installation and User's Guide

*Version 9 Release 1*



IBM DB2 Everyplace



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*Version 9 Release 1*

**Note**

Before using this information and the product it supports, read the information in "Notices" on page 89.

**Eighth Edition (July 2006)**

This edition applies to Version 9, Release 1 of IBM DB2 Everyplace and to all subsequent releases and modifications until otherwise indicated in new editions.

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# Contents

## About this book . . . . . v

Conventions used in this book . . . . .	v
How to read syntax diagrams . . . . .	v
Service updates and support information . . . . .	vi
Receiving information updates automatically . . . . .	vii
The DB2 Everyplace information set . . . . .	vii
Accessibility features . . . . .	vii
How to send your comments . . . . .	viii

## IBM DB2 Everyplace Installation and User's Guide version 9.1 . . . . . 1

### Product overview. . . . . 3

An example DB2 Everyplace scenario . . . . .	3
Components of the DB2 Everyplace solution. . . . .	4
DB2 Everyplace environments . . . . .	5
The DB2 Everyplace sample applications . . . . .	8

### Migrating mobile devices and services to DB2 Everyplace . . . . . 9

Migrating to DB2 Everyplace version 9.1 by using parallel migration. . . . .	9
Requirements for parallel migration . . . . .	10
Preparing the DB2 Everyplace version 8.2.x server for migration . . . . .	11
Preparing the DB2 Everyplace version 9.1 server for migration . . . . .	11
Exporting the DB2 Everyplace 8.2.x configuration . . . . .	12
Exporting the DB2 Everyplace version 8.2.x configuration for DataPropagator subscriptions . . . . .	12
Exporting the DB2 Everyplace version 8.2.x configuration for JDBC subscriptions . . . . .	13
Importing the DB2 Everyplace version 8.2.x configuration . . . . .	13
Importing the DB2 Everyplace version 8.2.x configuration for DataPropagator subscriptions . . . . .	13
Importing the DB2 Everyplace version 8.2.x configuration for JDBC subscriptions . . . . .	15
Synchronizing client devices with the DB2 Everyplace version 9.1 server . . . . .	16
Testing compatibility of different versions of DB2 Everyplace client devices . . . . .	17
Migrating to DB2 Everyplace version 9.1 by using sequential migration . . . . .	17
Backing up the DB2 Everyplace version 8.2.x configuration . . . . .	18
Exporting the DB2 Everyplace version 8.2.x configuration . . . . .	18
Uninstalling DB2 Everyplace version 8.2.x . . . . .	18
Installing DB2 Everyplace version 9.1 during sequential migration . . . . .	18

## Installing DB2 Everyplace . . . . . 21

Before installing DB2 Everyplace . . . . .	21
Preparing to install DB2 Everyplace on AIX systems. . . . .	21
Adjusting system parameters on AIX systems . . . . .	21
Administering the DB2 Everyplace Sync Server on an AIX system by using the Mobile Devices Administration Center . . . . .	21
Preparing to install DB2 Everyplace on Linux for 32-bit Intel x86 systems . . . . .	22
Preparing to install DB2 Everyplace on Solaris systems. . . . .	22
Adjusting system parameters on Solaris systems. . . . .	22
Administering the DB2 Everyplace Sync Server on a Solaris system by using the Mobile Devices Administration Center . . . . .	22
Installing DB2 Everyplace Database Edition . . . . .	23
DB2 Everyplace Database Edition installation requirements . . . . .	23
Installing DB2 Everyplace Database Edition by using the installation wizard. . . . .	23
Uninstalling DB2 Everyplace Database Edition . . . . .	24
Installing DB2 Everyplace Enterprise Edition . . . . .	24
DB2 Everyplace Enterprise Edition installation requirements . . . . .	24
Installing DB2 Everyplace Enterprise Edition on a server . . . . .	26
Installing DB2 Everyplace Enterprise Edition by using the installation wizard . . . . .	26
Installing DB2 Everyplace Enterprise Edition by using a response file and the command-line installation tool . . . . .	28
Uninstalling DB2 Everyplace Enterprise Edition . . . . .	29
Starting the First Steps launchpad . . . . .	29
Manually creating the Visiting Nurse sample database . . . . .	30
Installing DB2 Everyplace on mobile devices . . . . .	30
DB2 Everyplace mobile device requirements . . . . .	31
Installing DB2 Everyplace Database Edition on a Mobile Device . . . . .	31
Installing DB2 Everyplace Database Edition files on a Linux mobile device . . . . .	31
Installing DB2 Everyplace Database Edition files on a Palm OS mobile device . . . . .	32
Installing DB2 Everyplace Database Edition files on a QNX Neutrino mobile device . . . . .	33
Installing DB2 Everyplace Database Edition files on a Symbian OS mobile device . . . . .	34
Installing DB2 Everyplace Database Edition files on a Windows CE mobile device. . . . .	34
Installing DB2 Everyplace Database Edition files on a Windows mobile device . . . . .	35
Installing DB2 Everyplace Enterprise Edition on a mobile device. . . . .	36

Installing DB2 Everyplace Enterprise Edition files on a Linux mobile device . . . . .	36	Using the command-line tool to configure a distributed server . . . . .	63
Installing DB2 Everyplace Enterprise Edition files on a Palm OS mobile device . . . . .	38	Troubleshooting the configuration process . . . . .	64
Installing DB2 Everyplace Enterprise Edition files on a QNX Neutrino mobile device . . . . .	39	DB2 Everyplace remote administration configuration . . . . .	65
Installing DB2 Everyplace Enterprise Edition files on a Symbian OS mobile device . . . . .	40	Using the command-line tool to configure DB2 Everyplace for remote administration. . . . .	65
Installing DB2 Everyplace Enterprise Edition files on a Symbian OS Version 7 emulator . . . . .	42	Enabling IPv6 support on the embedded application server . . . . .	66
Installing DB2 Everyplace Enterprise Edition on a Windows CE mobile device . . . . .	42	Configuring DB2 Everyplace in WebSphere Application Server environments . . . . .	67
Installing DB2 Everyplace Enterprise Edition files on a Windows mobile device . . . . .	44	Configuring DB2 Everyplace in WebSphere Application Server 6 . . . . .	67
Setting up the DB2 Everyplace Update Tool on the DB2 Everyplace Sync Server . . . . .	45	Starting the DB2 Everyplace application server in WebSphere Application Server 6 . . . . .	70
Updating DB2 Everyplace Sync Client software using the DB2 Everyplace Update Tool . . . . .	46	Unconfiguring DB2 Everyplace in a WebSphere Application Server 6 environment . . . . .	70
Installing the DB2 Everyplace Update Tool on a mobile device by using a file subscription . . . . .	47	Unconfiguring DB2 Everyplace Enterprise Edition . . . . .	71
Installing the DB2 Everyplace Update Tool manually on a mobile device . . . . .	47	Unconfiguring DB2 Everyplace Enterprise Edition by using the command-line configuration tool . . . . .	71
<b>Configuring DB2 Everyplace . . . . .</b>	<b>49</b>	Unconfiguring DB2 Everyplace Enterprise Edition by using the unconfiguration wizard . . . . .	72
Configuring DB2 Everyplace Database Edition. . . . .	49	Configuring DB2 Everyplace on mobile devices . . . . .	72
Configuring DB2 Everyplace Enterprise Edition . . . . .	49	Secure Sockets Layer and DB2 Everyplace mobile devices . . . . .	73
DB2 Everyplace Enterprise Edition basic configuration . . . . .	50	Configuring SSL on Linux mobile devices . . . . .	73
Using the command-line tool to configure a basic environment . . . . .	50	Configuring SSL for Palm OS mobile devices . . . . .	74
DB2 Everyplace clustered configuration . . . . .	52	Configuring SSL for Windows mobile devices . . . . .	74
Preparing nodes in a DB2 Everyplace clustered configuration . . . . .	53	Configuring the DB2 Everyplace ODBC driver. . . . .	75
Configuring DB2 Everyplace for a clustered configuration by using the DB2 Everyplace Configuration Wizard . . . . .	54	DB2 Everyplace Sync Client IPv6 support . . . . .	75
Using the command-line tool to configure a clustered environment with a local control database and message store . . . . .	55	Synchronizing and verifying data on a Palm OS mobile device or emulator . . . . .	76
Using the command-line tool to configure a clustered environment with a remote control database and message store . . . . .	56	<b>DB2 Everyplace support and troubleshooting . . . . .</b>	<b>79</b>
Configuring a WebSphere Application Server cluster for the DB2 Everyplace Sync Server . . . . .	57	Troubleshooting configuration errors . . . . .	79
Activating the DB2 Everyplace cluster . . . . .	59	Diagnostic data for the DB2 Everyplace mobile database . . . . .	79
Testing the DB2 Everyplace Sync Server on a WebSphere Application Server cluster . . . . .	59	Diagnostic data for the DB2 Everyplace Sync Server . . . . .	80
DB2 Everyplace distributed configuration . . . . .	60	Enabling tracing for the DB2 Everyplace Sync Client . . . . .	80
Using the configuration wizard to configure a distributed database . . . . .	60	Verifying database integrity with the data integrity check tool . . . . .	81
Using the configuration wizard to configure a distributed server . . . . .	61	DB2 Everyplace Update Tool error messages . . . . .	81
Using the command-line tool to configure a distributed database . . . . .	62	<b>Glossary . . . . .</b>	<b>83</b>
		<b>Notices . . . . .</b>	<b>89</b>
		Trademarks . . . . .	91
		<b>Index . . . . .</b>	<b>93</b>

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## About this book

This book provides instructions for installing and configuring IBM® DB2 Everyplace.

This book is designed to help database administrators, system programmers, application programmers, and system operators perform these tasks:

- Plan for the installation of DB2 Everyplace
- Install and configure DB2 Everyplace
- Use the DB2 Everyplace sample applications to perform basic tasks
- Diagnose and recover from DB2 Everyplace problems

Always check the DB2 Everyplace Library page for the most current version of this publication:

<http://www.ibm.com/software/data/db2/everyplace/library.html>

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## Conventions used in this book

This documentation uses the following highlighting conventions:

- **Boldface type** indicates commands or user interface controls such as names of fields, folder, icons, or menu choices.
- Monospace type indicates examples of text that you enter exactly as shown.
- *Italic type* indicates variables that you should replace with a value. It is also used to indicate book titles and to emphasize significant words.

In this documentation, <DSYPATH> refers to the directory where DB2 Everyplace is installed. For instructions that are specific to Linux and UNIX systems, \$DSYINSTDIR refers to the directory where the DB2® Everyplace® Sync Server instance is located for a given user ID.

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## How to read syntax diagrams

The following rules apply to the syntax diagrams that are used in this information:

- Read the syntax diagrams from left to right, from top to bottom, following the path of the line. The following conventions are used:
  - The >>--- symbol indicates the beginning of a syntax diagram.
  - The ---> symbol indicates that the syntax diagram is continued on the next line.
  - The >--- symbol indicates that a syntax diagram is continued from the previous line.
  - The --->< symbol indicates the end of a syntax diagram.
- Required items appear on the horizontal line (the main path).

▶▶—*required\_item*—▶▶

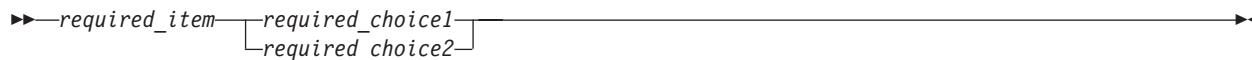
- Optional items appear below the main path.

▶▶—*required\_item*—  
                  └—*optional\_item*—┘▶▶

If an optional item appears above the main path, that item has no effect on the execution of the syntax element and is used only for readability.



- If you can choose from two or more items, they appear vertically, in a stack. If you *must* choose one of the items, one item of the stack appears on the main path.



If choosing one of the items is optional, the entire stack appears below the main path.



If one of the items is the default, it appears above the main path, and the remaining choices are shown below.



- An arrow returning to the left, above the main line, indicates an item that can be repeated.



If the repeat arrow contains a comma, you must separate repeated items with a comma.



A repeat arrow above a stack indicates that you can repeat the items in the stack.

- Keywords, and their minimum abbreviations if applicable, appear in uppercase. They must be spelled exactly as shown. Variables appear in all lowercase italic letters (for example, *column-name*). They represent user-supplied names or values.
- Separate keywords and parameters by at least one space if no intervening punctuation is shown in the diagram.
- Enter punctuation marks, parentheses, arithmetic operators, and other symbols, exactly as shown in the diagram.
- Footnotes are shown by a number in parentheses, for example (1).

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## Service updates and support information

To find service updates and support information, including software fix packs, Frequently Asked Questions (FAQs), technical notes, troubleshooting information, and downloads, refer to the following Web page:

<http://www.ibm.com/software/data/db2/everyplace/support.html>



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## Receiving information updates automatically

By registering with the IBM My Support service, you can automatically receive a weekly e-mail that notifies you when new DCF documents are released, when existing product documentation is updated, and when new product documentation is available. You can customize the service so that you receive information about only those IBM products that you specify.

To register with the My Support service:

1. Go to <http://www.ibm.com/support/mysupport>.
2. Enter your IBM ID and password, or create one by clicking **register now**.
3. When the My Support page is displayed, click **add products** to select those products that you want to receive information updates about. DB2 Everyplace is located under **Software -> Data and Information Management -> Databases**.
4. Click **Subscribe to email** to specify the types of updates that you would like to receive.
5. Click **Update** to save your profile.

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## The DB2 Everyplace information set

DB2 Everyplace technical information is available in the following formats:

### PDF files

The PDF versions of the books are titled as follows:

- *DB2 Everyplace Application and Development Guide*
- *DB2 Everyplace Sync Server Administration Guide*
- *DB2 Everyplace Installation and User's Guide*

A description of each book in the DB2 Everyplace library is available from:

- The IBM Publications Center at <http://www.ibm.com/shop/publications/order>
- The DB2 Everyplace Web site at <http://www.ibm.com/software/data/db2/everyplace/library.html>

### IBM developerWorks

IBM developerWorks has technical articles about DB2 Everyplace and a forum for interacting with other DB2 Everyplace users. You can access the DB2 Everyplace section of IBM developerWorks at <http://www.ibm.com/developerworks/db2/products/db2e/index.html>.

### Information center

The information center contains the entire DB2 Everyplace library in a convenient searchable format. More information is available on the DB2 Everyplace library page at <http://www.ibm.com/software/data/db2/everyplace/library.html>.

under the **Information Center** heading.

### Online help

You can open HTML browser-based online help from the Mobile Devices Administration Center user interface.

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## Accessibility features

Accessibility features help users with physical disabilities, such as restricted mobility or limited vision, to use software products successfully.

The Installer, Configuration Wizard, and Mobile Devices Administration Center are all accessible and include the following accessibility features:

- Operate all features by using the keyboard instead of the mouse.
- Customize the size and color of your fonts.
- Receive either visual or audio alert cues.
- Supports accessibility applications that use the Java™ Accessibility API.
- Comes with documentation that is provided in an accessible format.

### **Keyboard input**

You can use keys or key combinations to perform operations that can also be done by using a mouse. You can access context-sensitive menus from the menu bar instead of right-clicking.

### **Accessible display**

DB2 Everyplace has features that enhance the user interface and improve accessibility for users with low vision. These accessibility enhancements include support for customizing font properties.

#### **Font settings**

You can select the color, size, and font for the text in menus and dialog windows.

#### **No dependence on color**

You do not need to distinguish between colors in order to use any of the functions in this product.

#### **Supports high contrast colors**

The Mobile Devices Administration Center displays well when you use a high contrast color scheme.

#### **No flashing or blinking content**

No text or graphical user interface elements flash or blink during operation.

### **Alternative alert cues**

You can specify whether you want to receive alerts through audio or visual cues.

### **Compatibility with assistive technologies**

The Mobile Device Administration Center interface supports the Java Accessibility API, enabling use by screen readers and other assistive technologies used by people with disabilities.

### **Accessible documentation**

Accessible documentation for DB2 Everyplace is available in the DB2 Everyplace information center.

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## **How to send your comments**

Your feedback is important in helping to provide the most accurate and high-quality information. If you have any comments about this book or any other DB2 Everyplace documentation, use either of the following options:

- Use the online reader comment form, which is located at:  
<http://www.ibm.com/software/data/rcf/>
- Send your comments by e-mail to [comments@us.ibm.com](mailto:comments@us.ibm.com). Be sure to include the name of the book, the part number of the book, the version of DB2 Everyplace, and, if applicable, the specific location of the text you are commenting on (for example, a page number or table number).

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# IBM DB2 Everyplace Installation and User's Guide version 9.1



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## Product overview

DB2 Everyplace is part of the IBM On Demand Business solution for synchronizing data between mobile devices and enterprise database servers.

By using DB2 Everyplace, mobile professionals (such as sales people, inspectors, auditors, field service technicians, doctors, realtors, and insurance claim adjusters) can have access to vital data that they need when they are away from the office. Organizations can deliver their enterprise data to mobile devices. By using the DB2 Everyplace mobile database, you can access and perform updates to databases that reside on mobile devices. By using the DB2 Everyplace Sync Server and the Sync Client, you can synchronize data from mobile devices to other data sources in your enterprise.

The following editions of DB2 Everyplace are available:

### **DB2 Everyplace Enterprise Edition**

Provides database and synchronization software for mobile devices. This edition allows you to create a complete enterprise synchronization solution for your mobile devices. This edition includes:

- DB2 Everyplace Sync Server (including the Mobile Devices Administration Center and the XML Scripting tool)
- DB2 Everyplace mirror database
- DB2 Everyplace Sync Client
- DB2 Everyplace mobile database

### **DB2 Everyplace Database Edition**

Provides the DB2 Everyplace mobile database. This edition is ideal if you only want a robust and small database for your mobile devices and do not need to synchronize data with an enterprise data source.

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## An example DB2 Everyplace scenario

DB2 Everyplace can increase the productivity and efficiency of a mobile workforce. In this example, an insurance adjuster uses a mobile device that runs a DB2 Everyplace application.

Insurance claims adjusters are responsible for inspecting the damaged property of customers who file claims. In many companies, the adjuster visits the claimant's property, fills out paper forms to validate or refute the claim, and assesses the amount of the damages to be paid to the claimant. Later, when the adjuster returns to the office, the forms are manually entered into the company's computer system in a tedious and expensive process.

Equipping the adjusters with a mobile device that runs a DB2 Everyplace application can considerably streamline this process. By using their mobile devices wherever they are, the adjusters can access their inspection schedule, route, and claimant policy information. The adjusters can also complete the adjustment form on the mobile device. The adjusters can then synchronize the data on their mobile devices with the company's computer system by uploading the new adjustment form data to the company's enterprise database. If the adjusters need information in the field, they can synchronize the data on their mobile devices with the company's computer system immediately by using modem or wireless connection.

The claims adjustment process can now be completely paper free, which translates into significant cost savings for the insurance company. Claims are also settled faster because adjusters have instant access to their company's enterprise databases.

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## Components of the DB2 Everyplace solution

DB2 Everyplace Enterprise Edition is a robust solution for synchronizing enterprise data. You can configure the DB2 Everyplace environment in multiple ways depending on the needs of your network and your users.

### DB2 Everyplace mobile database

The DB2 Everyplace mobile database engine runs on a mobile device and stores a local copy of data from a source system. Users can use the mobile device to access and modify this data. The DB2 Everyplace mobile database is included with DB2 Everyplace Database Edition, DB2 Everyplace Enterprise Edition, and the Mobility on Demand feature of DB2.

The DB2 Everyplace mobile database is a relational database that resides on your mobile device. You can interact with the database through DB2 Call Level Interface (CLI) functions, Java Database Connectivity (JDBC) methods, Open Database Connectivity (ODBC) methods, or ADO.NET methods.

### DB2 Everyplace Sync Server

The DB2 Everyplace Sync Server is a servlet that synchronizes data and provides conflict resolution between embedded databases on mobile devices and a source database. When you install DB2 Everyplace, you install the DB2 Everyplace Sync Server servlet and a limited functionality embedded application server. You can also configure the DB2 Everyplace Sync Server to run inside a stand-alone application server such as WebSphere Application Server version 6.

You can administer the DB2 Everyplace Sync Server by using two tools:

#### Mobile Devices Administration Center

This graphical tool helps you manage and deliver synchronization services to groups of users with similar data synchronization needs.

#### The XML Scripting tool

The XML Scripting tool automates tasks otherwise performed using the Mobile Devices Administration Center. You can also use the XML Scripting tool to copy or move subscriptions, subscription sets, users, groups from one server to several other servers.

### DB2 Everyplace mirror database

The DB2 Everyplace mirror database stores the data that you want to synchronize between your mobile devices and your enterprise databases. The DB2 Everyplace Sync Server uses the mirror database to perform conflict resolution between mobile devices and to minimize load on your enterprise database systems.

If you have a stand-alone copy of DB2 Version 9.1 on your system, create or catalog the mirror database on the local DB2 instance of DB2 Everyplace. If you do not have DB2 Version 9.1 on your system, DB2 Everyplace installs an embedded, restricted version of DB2 Version 9.1 to function as the mirror database.

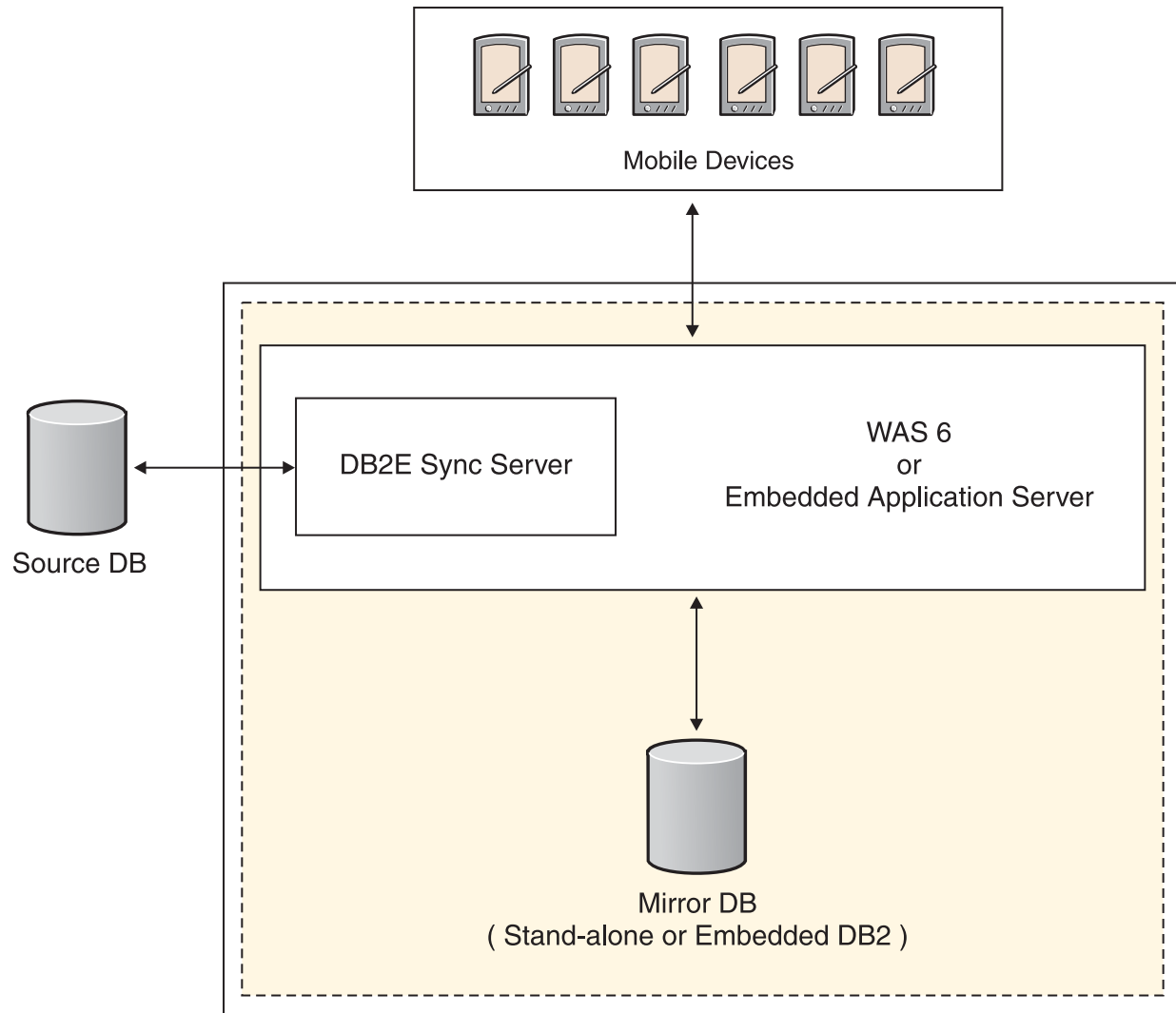
### DB2 Everyplace Sync Client

The DB2 Everyplace Sync Client is a component that mobile applications use to synchronize data between the DB2 Everyplace Sync Server. It handles bidirectional synchronization of enterprise relational data with the DB2 Everyplace mobile database. The DB2 Everyplace Sync Client also allows you to easily distribute and update mobile applications on your mobile devices as well as run stored procedures that reside on a DB2 database.

## How data is exchanged between DB2 Everyplace and mobile devices

The DB2 Everyplace Sync Server defines relationships and access rights through DB2 Version 9.1 replication objects such as users, groups, subscriptions, and subscription sets. This information as well as a local copy of the source data are kept on the DB2 Everyplace mirror database. The DB2 Everyplace

Sync Server transfers data to mobile devices through the TCP/IP interface that is provided by the application server. Mobile devices can synchronize data through any channel that supports TCP/IP, such as a direct USB connection or an Internet connection.



## DB2 Everyplace environments

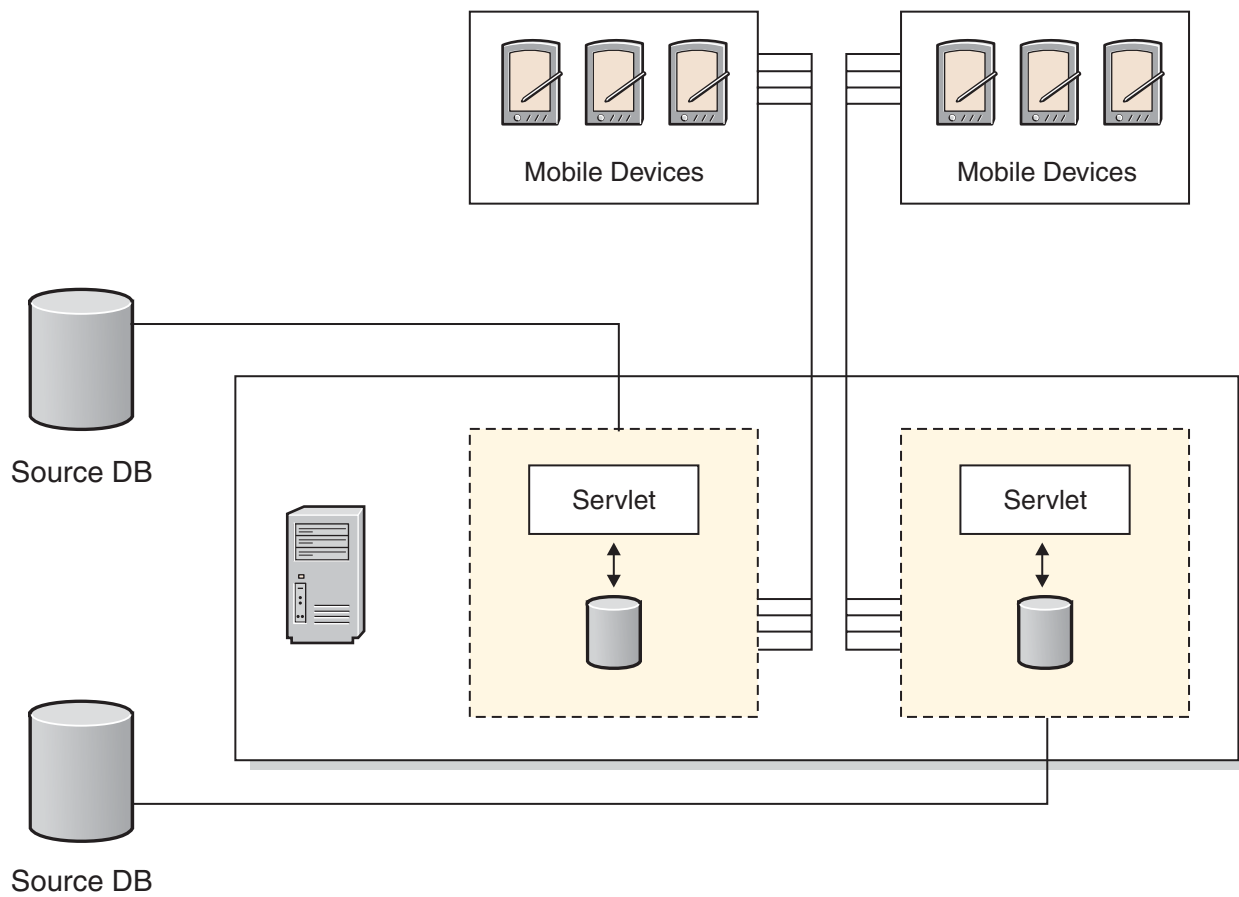
DB2 Everyplace Enterprise Edition is a robust solution for synchronizing enterprise data. You can configure the DB2 Everyplace environment in multiple ways depending on the needs of your network and your users.

### Underlying concepts

Like DB2 Version 9.1, DB2 Everyplace operates using instances. A DB2 Everyplace instance consists of the following components:

- The DB2 Everyplace Sync Server running in an embedded application server instance
- The DB2 Everyplace mirror database, which is managed by an instance of DB2 Version 9.1

## The basic environment



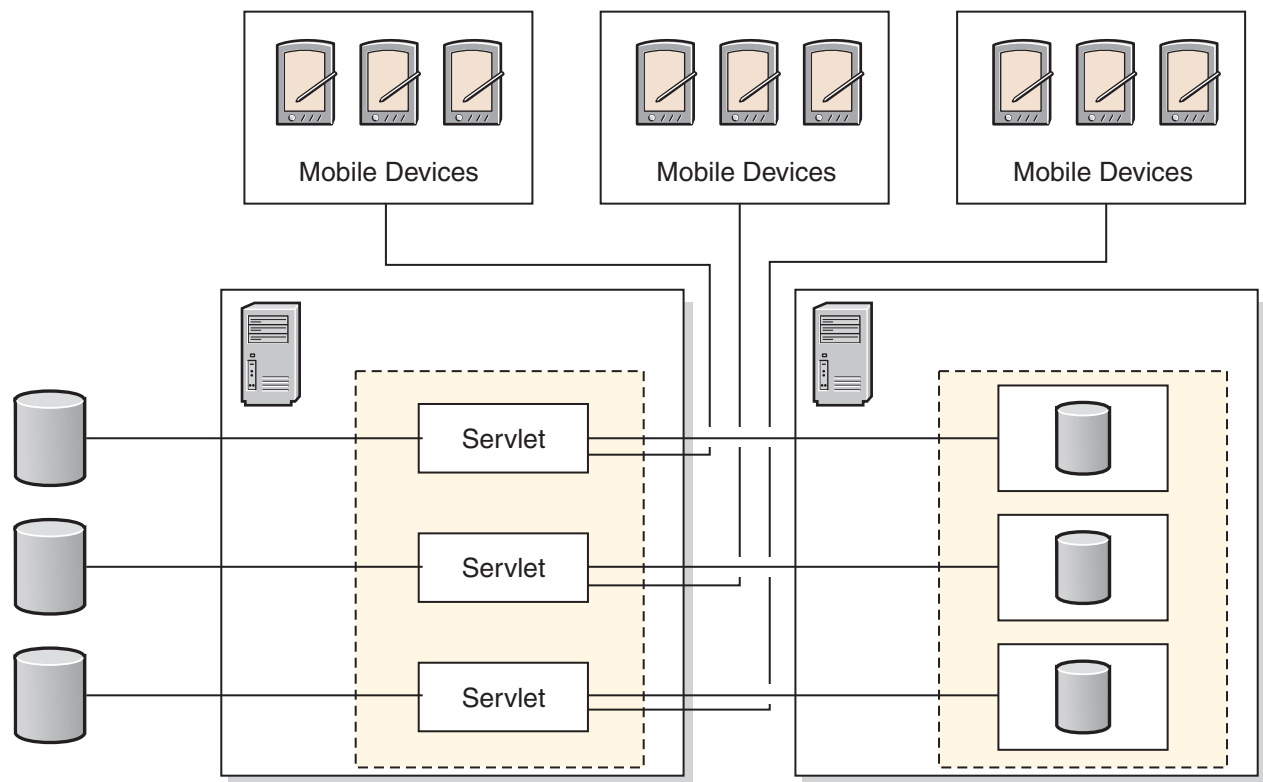
A basic environment places the DB2 Everyplace instance on one physical machine.

### To create a basic environment:

- Install DB2 Everyplace according to the steps in “Installing DB2 Everyplace Enterprise Edition” on page 24.
- Configure DB2 Everyplace according to the steps in “DB2 Everyplace Enterprise Edition basic configuration” on page 50.
- Optional step for UNIX users: To create additional instances, repeat step 2.



## The distributed environment



A distributed environment divides the DB2 Everyplace instance into two components:

### Distributed server

The distributed server is a machine that runs an instance of the DB2 Everyplace Sync Server inside an embedded application server instance.

### Distributed database

The distributed database is a machine that hosts the DB2 Everyplace mirror database on an instance of DB2 Version 9.1.

### To create a distributed environment:

1. Select a machine to function as the distributed database. In these steps, this machine is called "machine B."
2. Install DB2 Everyplace on machine B according to the steps in "Installing DB2 Everyplace Enterprise Edition" on page 24.
3. Configure DB2 Everyplace on machine B according to the steps in "Using the configuration wizard to configure a distributed database" on page 60. To configure the installation by using the command line, refer to the steps in "Using the command-line tool to configure a distributed database" on page 62. Record the instance user name and password that you choose in this step. You will need it for step 6.
4. Select a machine to function as the distributed server. In these steps, this machine is called "machine A."
5. Install DB2 Everyplace on machine A according to the steps in "Installing DB2 Everyplace Enterprise Edition" on page 24.
6. Configure DB2 Everyplace on machine A according to the steps in "Using the configuration wizard to configure a distributed server" on page 61. To configure the installation by using the command line, refer to the steps in "Using the command-line tool to configure a distributed server" on page 63. When you perform this step, use the same instance user name and password that you chose in step 3.

## The clustered environment

A clustered environment allows you to scale the DB2 Everyplace Sync Server across several nodes in a WebSphere Application Server Network Deployment cluster. WAS ND empowers DB2 Everyplace with additional features such as dynamic load balancing, scalability, and fail over.

To create a clustered environment, follow the instructions in “DB2 Everyplace clustered configuration” on page 52.

## The remote administration environment

A remote administration environment allows you to administer a DB2 Everyplace Sync Server instance that is located on another physical system by using the Mobile Devices Administration Center. For example, you can install DB2 Everyplace on a Windows workstation, configure it for a remote administration environment, and use it to administer a DB2 Everyplace Sync Server on an AIX system.

### To create a remote administration environment:

- Install and configure DB2 Everyplace on the machine that you want to administer according to the steps in “Installing DB2 Everyplace Enterprise Edition” on page 24.
- Install DB2 Everyplace on the workstation that you will use to perform remote administration according to the steps in “Installing DB2 Everyplace Enterprise Edition” on page 24.
- Configure the DB2 Everyplace installation on the workstation according to the steps in “DB2 Everyplace remote administration configuration” on page 65. To configure the installation by using the command line, refer to the steps in “DB2 Everyplace remote administration configuration” on page 65.

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## The DB2 Everyplace sample applications

The sample applications provide examples of applications that use DB2 Everyplace.

The Visiting Nurse sample application demonstrates bidirectional synchronization between the mobile database and the Sync Server. The sample application has two parts: one part runs on the Sync Server and another part runs on the mobile device that has the DB2 Everyplace mobile database. The sample application on the mobile device demonstrates the database engine functionality in a standalone environment. When the Sync Server sample application and the DB2 Everyplace mobile database engine sample application are used together, they work as a complete application that invokes all components of DB2 Everyplace.

The DB2 Sync sample application demonstrates how to use the IBM Sync Client API to synchronize tables of the subscriptions that are defined in the Mobile Devices Administration Center.

---

## Migrating mobile devices and services to DB2 Everyplace

You can migrate previous versions of DB2 Everyplace to DB2 Everyplace version 9.1 by using either parallel migration or sequential migration.

Use parallel migration if you want to keep your existing server operating until you are ready to move to the new DB2 Everyplace version 9.1 server. By using parallel migration, you can test the migration without interrupting service because the client devices can continue to synchronize with the old DB2 Everyplace server. If you are using UNIX<sup>®</sup> or Linux<sup>®</sup> servers, you can perform parallel migration on the same physical server by using separate DB2 Everyplace Sync Server instances. For Windows<sup>®</sup> environments, parallel migration requires two physical servers.

Sequential migration involves only one physical server. You can expect some server downtime because the DB2 Everyplace Sync Server cannot accept synchronization requests during migration. In addition, when you use sequential migration, you cannot test the new server before you migrate to it. If you have many users, sequential migration is *not* recommended.

**Restriction:** Sequential migration cannot be performed with UNIX or Linux servers.

---

### Migrating to DB2 Everyplace version 9.1 by using parallel migration

This topic provides an overview of the steps that you need to perform in order to migrate DB2 Everyplace version 8.2.x to DB2 Everyplace version 9.1. By using parallel migration, you can test, evaluate, and move users to the new DB2 Everyplace version 9.1 server gradually by migrating a group at a time.

#### To perform parallel migration to DB2 Everyplace version 9.1:

1. Make sure that you meet the requirements described in “Requirements for parallel migration” on page 10.
2. Optional: If you want to test the new DB2 Everyplace version 9.1 configuration before allowing it to write to the source databases, duplicate the source databases by copying them to a test server. This test is supported only for JDBC subscriptions. When migrating to DB2 Everyplace version 9.1, both the DB2 Everyplace version 8.2.x server and the DB2 Everyplace version 9.1 server can write to the production source databases.
3. Prepare the DB2 Everyplace 8.2.x server for migration.
4. Prepare the DB2 Everyplace version 8.2 server for migration.
5. Export the DB2 Everyplace version 8.2.x configuration. If you have both DataPropagator<sup>™</sup> and JDBC subscriptions, you must export each type of subscription separately.
  - For configurations that use DataPropagator subscriptions
  - For configurations that use JDBC subscriptions
6. Import the DB2 Everyplace version 8.2.x configuration into the DB2 Everyplace version 9.1 server. If you have both DataPropagator and JDBC subscriptions, you must import each type of subscription separately.
  - For configurations that use DataPropagator subscriptions
  - For configurations that use JDBC subscriptions
7. Synchronize client devices with the DB2 Everyplace version 9.1 server.
8. Disable the DB2 Everyplace version 8.2.x system:
  - a. Make sure that no applications are connected to the source database, including the DB2 Everyplace version 9.1 Sync Server.

- b. Delete all the subscriptions that are using the DB2 Everyplace version 8.2.x Mobile Devices Administration Center.
9. Test the compatibility mobile devices that are running different versions of DB2 Everyplace.

You can now create or edit subscriptions on the DB2 Everyplace version 9.1 server. If you have not done so already, you can also choose to upgrade client device software to DB2 Everyplace version 9.1 after you complete the migration.

## Requirements for parallel migration

Before you can perform parallel migration to DB2 Everyplace version 9.1, you must meet the following requirements.

- You must be migrating from DB2 Everyplace version 8.2.x to DB2 Everyplace version 9.1
- If you are migrating to DB2 Everyplace version 9.1 on a Windows server, you need a separate physical server. UNIX and Linux servers support parallel migration on the same physical server, but DB2 Everyplace version 9.1 must be a separate instance from the older version of DB2 Everyplace.
- Parallel migration to DB2 Everyplace version 9.1 is supported for the following source databases:
  - DB2 for zSeries<sup>®</sup>
  - DB2 UDB
  - DB2 for iSeries<sup>™</sup>
  - Oracle
  - SQL Server

For the supported versions of each source database, refer to *Source databases supported by DB2 Everyplace*.

DB2 Everyplace version 9.1 does not support parallel migration for configurations with Informix<sup>®</sup> source databases on any operating system. If you are migrating to DB2 Everyplace version 9.1 in a Windows environment with Informix source databases, you can use sequential migration. If you are migrating to DB2 Everyplace version 9.1 in a UNIX environment or Linux environment with Informix source databases, you cannot use parallel migration or sequential migration. For information about the migration steps for these unsupported databases, contact IBM Software Support.

- If your source database is DB2 UDB version 7, migrate your source database to DB2 UDB version 8. You cannot add, modify, or delete any DB2 Everyplace subscriptions if the source database is DB2 UDB version 7.

**Important:** In order to migrate to UDB version 8, ensure that the version 7 source database has fix pack 4 or later installed. In addition, be sure that replication is running normally for at least a week after fix pack 4 is installed. For more information, see the *DataPropagator Migration Guide: Migrating to DB2 Replication version 8 (REPL-MIG8)*.

- If you have JDBC subscriptions with an Oracle source database, and the tables in the subscriptions have LONG or LONG RAW columns, do not migrate to DB2 Everyplace version 9.1. Contact IBM Software Support for assistance.

### Restrictions:

- Do not change user IDs or passwords during migration. Make these changes only after you have completed migration and you have verified that DB2 Everyplace is functioning properly.
- Do not create or edit subscriptions on any server during migration. You must clean up and disable the DB2 Everyplace version 8.2.x server before you edit or create subscriptions on the DB2 Everyplace version 9.1 server.
- If you have both JDBC and DataPropagator subscriptions, you must import each type of subscription separately.

- The new DB2 Everyplace version 9.1 server can write to the production source databases at the same time as the older version of DB2 Everyplace. If this is a concern, duplicate the source databases before beginning the migration process and test the new DB2 Everyplace version 9.1 configuration with the test source databases. This test is supported only for JDBC subscriptions.
- DB2 Everyplace version 9.1 supports version 8.2.x mobile devices. Therefore, you can choose whether to upgrade the mobile devices.
- If you have DataPropagator subscriptions, you must follow special instructions for importing and exporting DataPropagator subscriptions. For more information about the DataPropagator migration process, see the *DataPropagator Migration Guide: Migrating to DB2 Replication version 8*.

## Preparing the DB2 Everyplace version 8.2.x server for migration

Before you perform parallel migration to DB2 Everyplace version 9.1, you must create a backup of the data on your system.

### To prepare the DB2 Everyplace version 8.2.x server for migration:

1. Replicate each mirror database with the `dsyreplicate` command.

#### Windows

Log in as the administrator.

Go to the `<DSYPATH>\Server\bin` directory.

Issue the following command: `dsyreplicate mirror_db_name`

#### UNIX and Linux

Log in as the DB2 Everyplace Sync Server instance.

Go to the `<DSYINSTDIR>/Server/bin` directory.

Issue the following command: `./dsyreplicate.sh mirror_db_name`

where `mirror_db_name` is the name of the mirror database that you want to replicate.

2. Stop the DB2 Everyplace version 8.2.x Sync Server servlet.
3. Back up all source and mirror databases and the DSYCTLDB control database. For details about backing up DB2 databases, refer to the DB2 Information Center. For details about backing up non-DB2 databases, refer to the documentation for the non-DB2 database.
4. Restart the DB2 Everyplace version 8.2.x Sync Server servlet so that client devices can resume synchronization.

## Preparing the DB2 Everyplace version 9.1 server for migration

If you are migrating to DB2 Everyplace version 9.1 on a Windows system, you must have a separate, physical server to migrate to. If the older version of DB2 Everyplace is on a UNIX or Linux server, you can migrate to DB2 Everyplace version 9.1 by creating a new instance on the same server or by using a separate, physical server.

### Prerequisites:

- If you do not install DB2 Version 9.1, DB2 Everyplace version 9.1 will install the embedded version of it. So if you do not plan to use the embedded version, install DB2 Version 9.1 before you migrate to DB2 Everyplace version 9.1.
- Make sure you meet the requirements for parallel migration.
- Install the DB2 Everyplace version 9.1 Sync Server and test it by running the VNurse sample.

### To prepare the DB2 Everyplace 9.1 server for migration:

1. Stop the DB2 Everyplace version 9.1 Sync Server servlet.

2. Create mirror databases for all JDBC subscriptions that you want to migrate. Do not create mirror databases for DataPropagator subscriptions. You will back up and restore mirror databases for DataPropagator subscriptions at a later time.

3. Catalog the source databases.

If you are using a DB2 series source database, you must catalog the source databases to make it accessible. Refer to the DB2 Information Center for catalog steps.

If your source database is non-DB2, enter the correct information for the JDBC driver while you are creating a subscription so that it can connect to the source database correctly. For more information about connecting to non-DB2 source databases while creating subscriptions, see the Subscriptions topic of the DB2 Everyplace Information Center or the *Sync Server Administration Guide*.

If you are using test source databases, make sure that this database is accessible instead of the production source database. You can use test source databases only with JDBC subscriptions.

4. For file subscriptions only, copy the subscribed files that have the same directory path as the DB2 Everyplace version 8.2.x server to the new DB2 Everyplace version 9.1 server.

## Exporting the DB2 Everyplace 8.2.x configuration

Part of the process of parallel migration involves exporting your current DB2 Everyplace 8.2.x configuration into an XML script. There are separate instructions for JDBC and DataPropagator subscriptions.

### Exporting the DB2 Everyplace version 8.2.x configuration for DataPropagator subscriptions

Follow these steps to export the configuration of your DB2 Everyplace DataPropagator subscriptions.

#### Prerequisites:

- If your DataPropagator subscriptions access a source database that is running on an AS/400® server, create a new index on the prune control table on the source database. Use the following SQL statement to create the index:

```
CREATE UNIQUE INDEX ASN.IBMSNAP_PRUNCNTLX
ON ASN.IBMSNAP_PRUNCNTL (
SOURCE_OWNER,
SOURCE_TABLE,
SOURCE_VIEW_QUAL,
APPLY_QUAL,
SET_NAME,
TARGET_SERVER,
TARGET_TABLE,
TARGET_OWNER);
```

- Make sure you meet the requirements for parallel migration.

#### To export the DB2 Everyplace version 8.2.x configuration for DataPropagator subscriptions:

1. Run the XML scripting tool, dsyadminxml.

##### Windows

- a. Log in as the administrator.
- b. Change to the <DSYPATH>\Server\bin\ directory.
- c. Issue the following command: `dsyadminxml -x outputFile`

##### UNIX and Linux

- a. Log in as the DB2 Everyplace Sync Server instance.
- b. Change to the \$DSYINSTDIR/Server/bin/ directory.
- c. Issue the following command: `./dsyadminxml -x outputFile`

where *outputFile* is the output file to which you want to store the configuration for DataPropagator subscriptions.

2. Remove all tags that apply to JDBC subscriptions. You must export JDBC subscriptions separately.
3. Transfer the output file to the DB2 Everyplace version 9.1 server.

## Exporting the DB2 Everyplace version 8.2.x configuration for JDBC subscriptions

Follow these steps to export the configuration of your DB2 Everyplace JDBC subscriptions.

**Prerequisite:** Make sure you meet the requirements for parallel migration.

**To export the DB2 Everyplace version 8.2.x configuration for JDBC subscriptions:**

1. Run the XML scripting tool, `dsyadminxml`.

### Windows

- a. Log in as the administrator.
- b. Change to the `<DSYPATH>\Server\bin\` directory.
- c. Issue the following command: `dsyadminxml -x outputFile`

### UNIX and Linux

- a. Log in as the DB2 Everyplace Sync Server instance.
- b. Change to the `$DSYINSTDIR/Server/bin/` directory.
- c. Issue the following command: `./dsyadminxml -x outputFile`

where *outputFile* is the output file to which you want to store the configuration for JDBC subscriptions.

2. Remove all tags that apply to DataPropagator subscriptions. You must export DataPropagator subscriptions separately.
3. **Optional:** If you are using a test source database, edit the Database and MasterDb tags in the output file to point to the test source database instead of to the production source database.

### Example:

```
<AddJdbcMaster>
...
<Database>jdbc:db2:testSourceDb</Database>
...
</AddJdbcMaster>
<AddJdbcSubscription>
...
<MasterDb>jdbc:db2:testSourceDb</MasterDb>
...
</AddJdbcSubscription>
```

where *testSourceDb* is the name of the test source database. Be sure to edit the MasterDb tag for all of your subscriptions.

4. Transfer the output file to the DB2 Everyplace version 9.1 server.

## Importing the DB2 Everyplace version 8.2.x configuration

Part of the process of parallel migration involves importing your current DB2 Everyplace 8.2.x configuration into a DB2 Everyplace version 9.1 configuration. There are separate instructions for JDBC and DataPropagator subscriptions.

### Importing the DB2 Everyplace version 8.2.x configuration for DataPropagator subscriptions

Follow these steps to import the configuration of your DB2 Everyplace DataPropagator subscriptions.

**Prerequisites:**

- Make sure you meet the requirements for parallel migration.
- Ensure that the LogFileSize setting of the mirror database is at least 1000 4KB.
- Create a backup image of the mirror database that is used in DataPropagator table subscriptions on the DB2 Everyplace 8.2.x server.
- Verify that the database user IDs and passwords in the output file on the DB2 Everyplace version 9.1 server are correct.
- Ensure that no applications are connected to the source databases and that DB2 Everyplace version 8.2.x does not perform a replication to the source database.

**To import the DB2 Everyplace version 8.2.x configuration for DataPropagator subscriptions:**

1. Stop the DB2 Everyplace version 9.1 Sync Server servlet. Do not open the Mobile Devices Administration Center after you have stopped the DB2 Everyplace version 9.1 Sync Server servlet. If you open the Mobile Devices Administration Center, the next import step will result in errors.
2. Restore the mirror database backup image from the DB2 Everyplace 8.2.x server. If the restored database is in a rollforward-pending state and does not allow connections, enter the following command in a DB2 command window to bring the database into a defined state:  
`db2 rollforward database DB_name to end of logs and complete`  
 where *DB\_name* is the name of the restored database.
3. Catalog the source database.
4. Edit the DSYDPMIG8ENV file and supply values for the environment variables that are listed in the file.
  - On Windows systems, edit the DSYDPMIG8ENV.bat script that is located in the <DSYPATH>\config\work\migrate\ directory.
  - On UNIX and Linux systems, edit the DSYDPMIG8ENV.sh script that is located in the \$DSYINSTDIR/config/work/migrate/ directory.
5. Run the DSYPREASNMI8 command.  
 If you receive the error DB2Exception: SQL1117N A connection to or activation of database *dbname* cannot be made because of ROLL-FORWARD PENDING (SQLSTATE = 57019), issue the rollforward command to bring the database into a defined state as described in step 2.
6. Edit the XML output file that contains the DB2 Everyplace DataPropagator configuration and make the following changes:
  - a. Make sure that the Replicate attribute is set to FALSE.

**Example:**

```
<AddDproprSubscription Replicate = "FALSE">
```

- b. Remove all the <AddAdapter> and </AddAdapter> tags and their contents. If you do not remove the tags, you will receive the following error message: Error processing XML: Adapter already exists in the next import step
7. Import the DB2 Everyplace version 8.2.x configuration by using the XML Scripting tool.

**Windows**

- a. Log in as the administrator.
- b. Change to the <DSYPATH>\Server\bin\ directory.
- c. Issue the following command: `dsyadminxml -d outputFile`

**UNIX and Linux**

- a. Log in as the DB2 Everyplace Sync Server instance.
- b. Change to the \$DSYINSTDIR/Server/bin/ directory.
- c. Issue the following command: `./dsyadminxml -d outputFile`

where *outputfile* is the output file to which you want to store the configuration for DataPropagator subscriptions.



If the import operation results in filter and parameter syntax errors, fix them in the output file before you import the configuration again. See the table filters topic in *DB2 Everyplace Sync Server Administration Guide* for more information about filter syntax.

8. Run DSYPOSTASNMI8.
9. Disable all groups that are using the DB2 Everyplace version 9.1 Mobile Devices Administration Center.
10. Replicate each mirror database:

#### Windows

- a. Log in as the administrator.
- b. Change to the <DSYPATH>\Server\bin\ directory.
- c. Issue the following command: `dsyreplicate mirror_db_name`

#### UNIX and Linux

- a. Log in as the DB2 Everyplace Sync Server instance.
- b. Change to the \$DSYINSTDIR/Server/bin/ directory.
- c. Issue the following command: `./dsyreplicate mirror_db_name`

where *mirror\_db\_name* is the name of the mirror database that you want to replicate. If there is an error, fix the error and rerun the script.

11. Verify that the DB2 Everyplace version 8.2 mirror database is correctly migrated and that it properly supports the DataPropagator table subscriptions.
12. Drop the BACKUPTS table space and all of the other tables in the schema BACKUP (substitute your own table space and schema names if you did not use the default names).
13. Start the DB2 Everyplace version 9.1 Sync Server servlet.

## Importing the DB2 Everyplace version 8.2.x configuration for JDBC subscriptions

Follow these steps to import the configuration of your DB2 Everyplace JDBC subscriptions.

### Prerequisites

- Make sure you meet the requirements for parallel migration.
- Verify that the database user IDs and passwords in the output file on the DB2 Everyplace version 9.1 server are correct.
- Ensure that no applications are connected to the source databases. Make sure that DB2 Everyplace version 8.2.x does not perform a replication to the source database.

### To import the DB2 Everyplace version 8.2.x configuration for JDBC subscriptions:

1. Stop the DB2 Everyplace version 9.1 Sync Server servlet.
2. Remove all the <AddAdapter> and </AddAdapter> tags from the output file. If you do not remove the tags, you will receive the following error message: Error processing XML: Adapter already exists in the next import step.
3. Import the DB2 Everyplace version 8.2.x configuration by using the XML Scripting tool.

#### Windows

- a. Log in as the administrator.
- b. Change to the <DSYPATH>\Server\bin\ directory.
- c. Issue the following command: `dsyadminxml -d outputFile`

#### UNIX and Linux

- a. Log in as the DB2 Everyplace Sync Server instance.
- b. Change to the \$DSYINSTDIR/Server/bin/ directory.
- c. Issue the following command: `./dsyadminxml -d outputFile`

where *outputFile* is the output file to which you want to store the configuration for DataPropagator subscriptions. If the import results in filter and parameter syntax errors, fix them in the output file before you import the configuration again.

4. Disable all of the groups that are using the DB2 Everyplace version 8.2 Mobile Devices Administration Center.
5. Replicate each mirror database:

#### Windows

- a. Log in as the administrator.
- b. Change to the <DSYPATH>\Server\bin\ directory.
- c. Issue the following command: `dsyreplicate mirror_db_name`

#### UNIX and Linux

- a. Log in as the DB2 Everyplace Sync Server instance.
- b. Change to the \$DSYINSTDIR/Server/bin/ directory.
- c. Issue the following command: `./dsyreplicate mirror_db_name`

where *mirror\_db\_name* is the name of the mirror database that you want to replicate. If there is an error, fix the error and rerun the script.

6. Start the DB2 Everyplace version 9.1 Sync Server servlet.

## Synchronizing client devices with the DB2 Everyplace version 9.1 server

By using parallel migration, you can migrate a small subset of your client devices that synchronize to the DB2 Everyplace 8.2.x server to synchronize to the DB2 Everyplace 9.1 server.

**Prerequisite:** Make sure you meet the requirements for parallel migration.

### To synchronize the client devices with the DB2 Everyplace version 9.1 server:

1. On the DB2 Everyplace version 8.2.x server:
  - a. Identify a synchronization group to migrate.
  - b. Synchronize all of the client devices that are in the group with the DB2 Everyplace version 8.2.x server and ensure that synchronization is successful.

**Important:** A client device must not make any changes to data during the time after this synchronization and before it synchronizes with the DB2 Everyplace version 9.1 server. If it does, those changes are lost because the client device refreshes when it synchronizes with the DB2 Everyplace version 9.1 server for the first time.

- c. Replicate each mirror database and ensure that replication is successful.
  - d. Disable this synchronization group in the Mobile Devices Administration Center.
2. On the DB2 Everyplace version 9.1 server:
  - a. Replicate each mirror database and ensure that replication is successful.
  - b. Enable the same synchronization group that you disabled on the DB2 Everyplace version 8.2.x server in the Mobile Devices Administration Center.
  - c. **Optional:** Upgrade the group of client devices to DB2 Everyplace version 9.1. DB2 Everyplace version 9.1 is compatible with version 8.2.x client devices, so you can choose to do this at a later time.
  - d. Update the server IP address in the server settings of the synchronization client program to the IP address of the DB2 Everyplace version 9.1 Sync Server. Do this for all client devices in the group.
  - e. Synchronize the group and ensure it is successful.

**Important:** The client devices that are in the group are refreshed because they are now synchronizing to the new DB2 Everyplace version 9.1 system. Any changes that a client device made after synchronizing for the last time with the DB2 Everyplace version 8.2.x system are lost after this refresh.

- f. Compare all of the clients' table data with the source table data and make sure they are the same.
3. Repeat steps 1 and 2 until you migrate all of the client devices to the DB2 Everyplace version 9.1 server.

## Testing compatibility of different versions of DB2 Everyplace client devices

Because DB2 Everyplace version 9.1 supports DB2 Everyplace version 8.2.x client devices, you can test to see if the two types of client devices receive changes from each other. This test is optional.

### To test the compatibility of different versions of DB2 Everyplace client devices:

1. On a DB2 Everyplace version 8.2.x client device:
  - a. Insert, update, and delete rows from the client device.
  - b. Synchronize the client device.
  - c. Replicate each mirror database and ensure that the replication is successful.
  - d. Compare the client device data with the source table data and ensure that they are the same.
2. On a DB2 Everyplace version 9.1 client device:
  - a. Synchronize the client device.
  - b. Replicate each mirror database and ensure that the replication is successful.
  - c. Synchronize the client device and ensure that the replication is successful.
  - d. Compare the client device data and the source table data and ensure that they are the same.
  - e. Insert, update, and delete rows from a client device.
  - f. Synchronize the client device.
  - g. Replicate each mirror database and ensure that the replication is successful.
  - h. Compare the client device data with the source table data and ensure that they are the same.
3. On a DB2 Everyplace version 8.2.x client device:
  - a. Replicate each mirror database and ensure that the replication is successful.
  - b. Synchronize the client device and ensure that the replication is successful.
  - c. Compare the client device data and the source table data and ensure that they are the same.

---

## Migrating to DB2 Everyplace version 9.1 by using sequential migration

Sequential migration allows you to migrate to DB2 Everyplace version 9.1 without the need for an extra physical server.

### Prerequisites:

- Sequential migration supports only Windows servers. Do not use sequential migration on Linux or UNIX servers. If you have a Linux or UNIX server and you do not want to migrate to another physical server, use parallel migration with separate DB2 Everyplace Sync Server instances.
- You can migrate only JDBC subscriptions.
- You must be migrating from DB2 Everyplace version 8.2.x to DB2 Everyplace version 9.1.

To perform sequential migration, follow these steps.

## Backing up the DB2 Everyplace version 8.2.x configuration

Before you can perform sequential migration to DB2 Everyplace version 9.1, you must back up your configuration.

### To back up the DB2 Everyplace version 8.2.x configuration:

1. Notify all users to synchronize with the DB2 Everyplace version 8.2.x Sync Server.
2. Replicate each mirror database by using the `dsyreplicate` tool.
  - a. Change to the `<DSYPATH>\Server\bin\` directory.
  - b. Issue the following command:

```
dsyreplicate mirror_db_name
```

where `mirror_db_name` is the name of the mirror database that you want to replicate.
3. Stop the DB2 Everyplace version 8.2.x Sync Server servlet.
4. Back up all source, mirror, and control databases. For details about backing up DB2 databases, refer to the DB2 Information Center. For details about backing up non-DB2 databases, refer to the documentation for the non-DB2 databases.

## Exporting the DB2 Everyplace version 8.2.x configuration

After you have backed up the DB2 Everyplace version 8.2.x configuration, you must export it. Follow these steps to prepare the configuration file to be read by DB2 Everyplace version 9.1.

1. Use the XML scripting tool to export the DB2 Everyplace version 8.2.x configuration:
  - a. Change to the `<DSYPATH>\Server\bin` directory.
  - b. Issue the following command:

```
dsyadminxml -x outputFile
```

where `outputFile` is the name of the XML file to which you want to store the DB2 Everyplace configuration.
2. Remove all tags that apply to DataPropagator subscriptions. You cannot export DataPropagator subscriptions.
3. Remove the `<AddServer>` and `</AddServer>` tags and their contents if they exist in the output file.

## Uninstalling DB2 Everyplace version 8.2.x

After you have exported the configuration for DB2 Everyplace, you must uninstall the program. Follow these steps to remove DB2 Everyplace version 8.2.x from your system.

1. Use the DB2 Everyplace version 8.2.x Sync Server to delete all subscriptions.
2. Uninstall DB2 Everyplace version 8.2.x.
3. Drop all mirror databases and the control database (DSYCTLDB).
4. If the XML file that contains the DB2 Everyplace configuration is located in the `<DSYPATH>` directory or its subdirectories, move it to a directory outside of the `<DSYPATH>` directory. You can also move other files, such as log files, if you want to keep them.
5. Delete the `<DSYPATH>` directory from the server.

## Installing DB2 Everyplace version 9.1 during sequential migration

After you have uninstalled DB2 Everyplace version 8.2.x, follow these instructions to install DB2 Everyplace version 9.1.

### To install DB2 Everyplace version 9.1:

1. Install the DB2 Everyplace version 9.1 Sync Server.
2. Stop the DB2 Everyplace version 9.1 Sync Server servlet.

3. Re-create all of the mirror databases with the same name and configuration as the original mirror databases. For example, the new databases should have the same transaction log size as the old databases.
4. Open a new command or shell window so that all the environment variables are set correctly.
5. Import the DB2 Everyplace version 8.2.x configuration using the XML Scripting tool.

- a. Change to the <DSYPATH>\Server\bin\ directory.

- b. Issue the following command:

```
dsyadminxml -d outputFile
```

where *outputFile* is the name of the XML file to which you want to store the DB2 Everyplace configuration.

If the import results in filter and parameter syntax errors, fix them in the output file before importing again. See the table filters section in *DB2 Everyplace Sync Server Administration Guide* for more information about filter syntax.

6. Replicate each mirror database by using the `dsyreplicate` tool.

- a. Change to the <DSYPATH>\Server\bin\ directory.

- b. Issue the following command:

```
dsyreplicate mirror_db_name
```

where *mirror\_db\_name* is the name of the mirror database that you want to replicate.

7. Start the DB2 Everyplace version 9.1 Sync Server servlet.
8. **Optional:** Upgrade the client devices to DB2 Everyplace version 9.1. DB2 Everyplace version 9.1 is compatible with version 8.2.x client devices, so you can choose to do this at a later time.
9. Synchronize a client device with the DB2 Everyplace version 9.1 Sync Server, and ensure that it is successful.



---

## Installing DB2 Everyplace

Topics in this section explain how to install DB2 Everyplace files on a server and on mobile devices. It describes the procedures for each of the DB2 Everyplace editions. Also, it includes information about the different options for installing the DB2 Everyplace Update Tool as well as how to use this tool.

---

### Before installing DB2 Everyplace

Before you install DB2 Everyplace Enterprise Edition, you must adjust system parameters so that DB2 Everyplace will operate as efficiently as possible.

**Note:** Topics in this section apply only to DB2 Everyplace Enterprise Edition.

### Preparing to install DB2 Everyplace on AIX systems

Follow the steps in this section before you install DB2 Everyplace on an AIX system.

#### Adjusting system parameters on AIX systems

If you plan to use a standalone version of DB2 Version 9.1 with DB2 Everyplace, you must modify your system parameters before you install DB2 Everyplace.

**Prerequisite:** Perform these steps only if you are running the standalone version of DB2 Version 9.1 on your system.

Perform the following steps for each DB2 Version 9.1 instance that you will use with DB2 Everyplace.

1. Modify the login profile of the DB2 Version 9.1 instance (typically `/home/<username>/.`profile) to include the following statement:

```
EXTSHM=ON
export EXTSHM
```

2. Log out and log in as the DB2 Version 9.1 instance to make the changes take effect.
3. Issue the following command as the DB2 Version 9.1 instance:  
`db2set DB2ENVLIST=EXTSHM`
4. Restart the DB2 Version 9.1 instance.

### Administering the DB2 Everyplace Sync Server on an AIX system by using the Mobile Devices Administration Center

To administer a DB2 Everyplace Sync Server instance on this system by using Mobile Devices Administration Center (MDAC), you must run MDAC remotely from a Windows or Linux system. You do not need to perform these steps if you do not want to administer the system by using MDAC.

**Prerequisite:** Before you perform these steps, install and configure DB2 Everyplace on the AIX system.

Perform the following steps on a Windows or Linux system.

1. Install DB2 Everyplace.
2. Configure that system according to the steps in the DB2 Everyplace remote administration configuration topic. When you are prompted to enter the connection parameters for the remote DB2 Version 9.1 instance, enter the IP address of the AIX system.
3. Use the Mobile Devices Administration Center on the Windows or Linux system to administer the DB2 Everyplace installation on the AIX system.

## Preparing to install DB2 Everyplace on Linux for 32-bit Intel x86 systems

In order for DB2 Everyplace to operate as efficiently as possible, you must adjust your system parameters prior to installing DB2 Everyplace. Failure to do so can result in the inability to create a new connection to the database.

**Important:** Only 32-bit DB2 Version 9.1 instances are supported on 32-bit Intel x86 systems.

For Linux systems that are running kernel 2.4, log in as the root user and issue the following commands:

```
sysctl -w kernel.msgmni=2048
sysctl -w kernel.shmmax=1073741824
sysctl -w fs.file-max=32768
sysctl -w kernel.sem="512 32000 32 1024"
sysctl -w kernel.threads-max=20480
```

**Important:** To execute these commands automatically each time that you boot the system, place them at the end of the `/etc/rc.d/rc.local` file.

## Preparing to install DB2 Everyplace on Solaris systems

Follow the steps in this section before you install DB2 Everyplace on a Solaris system.

### Adjusting system parameters on Solaris systems

If you plan to use a standalone version of DB2 Version 9.1 with DB2 Everyplace, you must modify your system parameters before you install DB2 Everyplace.

**Prerequisite:** Perform these steps only if you are running the standalone version of DB2 Version 9.1 on your system.

Perform the following steps for each DB2 Version 9.1 instance that you will use with DB2 Everyplace.

1. Modify the login profile of the DB2 Version 9.1 instance (typically `/home/<username>/.profile`) to include the following statement:

```
EXTSHM=ON
export EXTSHM
```

2. Log out and log in as the DB2 Version 9.1 instance to make the changes take effect.
3. Issue the following command as the DB2 Version 9.1 instance:

```
db2set DB2ENVLIST=EXTSHM
```

4. Restart the DB2 Version 9.1 instance.
5. Edit the `/etc/system` file to include the following values:

```
set shmsys:shminfo_shmseg = 256
set semsys:seminfo_semume = 256
```

6. Reboot the system to make the settings take effect.

## Administering the DB2 Everyplace Sync Server on a Solaris system by using the Mobile Devices Administration Center

To administer a DB2 Everyplace Sync Server instance on this system by using Mobile Devices Administration Center (MDAC), you must run MDAC remotely from a Windows or Linux system. You do not need to perform these steps if you do not want to administer the system by using MDAC.

**Prerequisites:** Before you perform these steps, install and configure DB2 Everyplace on the Solaris system.

Perform the following steps on a Windows or Linux system.

1. Install DB2 Everyplace.



2. Configure that system according to the steps in the DB2 Everyplace remote administration configuration topic. When you are prompted to enter the connection parameters for the remote DB2 Version 9.1 instance, enter the IP address of the Solaris system.
3. Use the Mobile Devices Administration Center on the Windows or Linux system to administer the DB2 Everyplace installation on the Solaris system.

---

## Installing DB2 Everyplace Database Edition

Installing DB2 Everyplace Database Edition is a two-step process. Topics in this section explain the first step, installing DB2 Everyplace Database Edition on a windows workstation.

To complete the installation, you must also install DB2 Everyplace on mobile devices.

### DB2 Everyplace Database Edition installation requirements

The exact configuration that you need to support your environment with satisfactory response time will vary depending on workstation speed, memory, and network and server workload. Evaluate and adjust the minimum recommended configurations according to your unique requirements.

#### Hardware requirements

Disk space recommendations are for the product installation and working space only. The actual hard disk space required will vary depending upon your installation. To copy DB2 Everyplace files locally, your workstation must meet or exceed the following hardware requirements:

- Intel® Pentium® III, AMD Athlon, AMD64, or comparable processor
- 512 MB of memory
- 80 MB of free disk space

#### Software requirements

To install DB2 Everyplace Database Edition, you need a workstation running Windows 2003.

You also need software that enables a workstation and a mobile device to communicate (for example, Palm HotSync). This software is not provided with DB2 Everyplace. You must obtain it from another source, such as the device manufacturer's Web site.

See "DB2 Everyplace mobile device requirements" on page 31 for a list of mobile devices and processors that are supported by the DB2 Everyplace Database.

#### Application development workstation requirements

To develop applications for DB2 Everyplace, your workstation must meet or exceed these minimum requirements:

- Microsoft® Windows 2000, Windows XP, or Windows 2003 Server
- 150 MB available disk space
- 256 MB of memory

### Installing DB2 Everyplace Database Edition by using the installation wizard

Use the DB2 Everyplace installation wizard to copy files from a CD or compressed archive to a server.

You can specify a destination directory, and you can choose one of the following installation types:

## Typical

Select this type to copy a predefined set of files to default locations that are relative to a directory that you specify.

## Custom

Select this type to specify what DB2 Everyplace components that the installation wizard should install. When you select a custom installation, the installation wizard allows you to select any or all of the following options:

- Install DB2 Everyplace mobile database files for all supported locales

**Important:** The DB2 Everyplace installation media includes only English documentation. To access documentation in other languages, visit the DB2 Everyplace Library Web page at <http://www.ibm.com/software/data/db2/everyplace/library.html>.

A custom installation allows you to save your specifications in a response file that you can use at a later time to automate the installation process on other systems.

To install DB2 Everyplace Database Edition on a server:

1. Start the installation wizard. There are two ways to start the installation wizard:
  - a. Insert the DB2 Everyplace CD into the CD-ROM drive. The Installation wizard starts automatically.
  - b. Run the dsysetup.exe file. The dsysetup.exe file is in the root directory of the archive.
2. Follow the wizard's prompts.
3. Click **Next** in the Pre-installation Summary page to copy files to the server.

## Uninstalling DB2 Everyplace Database Edition

Use the uninstallation wizard to remove DB2 Everyplace Database Edition from your system.

To uninstall DB2 Everyplace Database Edition:

1. Start the DB2 Everyplace uninstallation wizard. Use one of the following methods:
  - Run the DB2EveryplaceUninstall.exe file, which is located in the <DSYPATH>\Uninstaller directory.
  - Use the Windows Add/Remove Programs feature.
2. Follow the instructions that are provided by the uninstallation wizard.
3. Click **Finish** to delete the DB2 Everyplace files from your system.

---

## Installing DB2 Everyplace Enterprise Edition

Installing DB2 Everyplace Enterprise Edition is a two-step process. Topics in this section explain the first step, installing the DB2 Everyplace Sync Server on a server.

To complete the installation, you must also install DB2 Everyplace on mobile devices.

## DB2 Everyplace Enterprise Edition installation requirements

The exact configuration you need to support your environment with satisfactory response time will vary depending on the size of the objects that you are working with, workstation speed, memory, and network and server workload. Evaluate and adjust the minimum recommended configurations according to your unique requirements.

### Hardware and operating system requirements

For a list of the hardware and operating system requirements of DB2 Everyplace, refer to the following Web page: <http://www.ibm.com/software/data/db2/everyplace/requirements/index2.html>.

## Disk space requirements

You need at least 1 GB of free disk space to install DB2 Everyplace Enterprise Edition. You will need additional space for the configuration process; the amount of space that is required depends on the type of configuration that you use. The DB2 Everyplace Configuration Wizard returns an error if the target computer does not have enough disk space for the specified configuration.

The following table lists the disk space requirements for different platforms. For Windows platforms, the hard drive must have the required amount of disk space. For Linux and UNIX, the home directory must have the required amount of disk space for each instance of the DB2 Everyplace Sync Server.

Table 1. Disk space requirements for different configuration types

Configuration type	Windows systems	Linux and UNIX systems
Basic	400 MB	520 MB
Distributed database	300 MB	420 MB
Distributed server	200 MB	320 MB
Cluster configuration (local databases)	300 MB	420 MB
Cluster configuration (remote databases)	100 MB	220 MB
Remote administration	100 MB	220 MB

**Important:** When you install DB2 Everyplace Enterprise Edition on a UNIX system, make sure that the sticky bit is not set on the directory that contains the home directories of the users. This is usually the /home directory. DB2 Everyplace will not work properly if the sticky bit is set.

## Software requirements

The DB2 Everyplace Sync Server requires the following software:

- Workstation-to-mobile-device connection software, such as Palm HotSync, is required to enable the server and a mobile device to communicate. This software is not provided with DB2 Everyplace. You must obtain it from another source, such as the Web site of the manufacturer of the mobile device.
- DB2 Version 9.1 If the DB2 Everyplace installer does not find DB2 Version 9.1 on your system, it installs an embedded version of DB2 Version 9.1 that has limited functionality.

**Note:** If you do not plan to use the embedded DB2 Version 9.1 of DB2 Everyplace and want to install DB2 Version 9.1 separately, you can choose the component of DB2 Version 9.1 to be installed depending on the configuration you will perform. To configure the server in the distributed configuration or clustered configuration, you can choose to install DB2 Version 9.1 Administration Client only instead of the full version.

**Restriction:** Do not upgrade DB2 Version 9.1 to a new full version while DB2 Everyplace is installed. Instead, remove DB2 Everyplace, upgrade DB2 Version 9.1, and then install DB2 Everyplace again.

- One of the following editions of WebSphere Application Server:
  - Embedded WebSphere Application Server Express Edition (included with DB2 Everyplace)
  - WebSphere Application Server Version 6.0.2.5
- A supported database server is required if you want the DB2 Everyplace Sync Server to synchronize DB2 Everyplace data with a source database. See the DB2 Everyplace Web site at <http://www.ibm.com/software/data/db2/everyplace> for the list of database servers that the DB2 Everyplace Sync Server supports.

## Installing DB2 Everyplace Enterprise Edition on a server

Follow these instructions to install DB2 Everyplace Enterprise Edition on a server.

### Prerequisites:

- Windows systems: Log in as an administrator.
- Linux and UNIX systems:
  - Log in as root user.
  - Add the following line to the login profile for each DB2 Everyplace Sync Server instance: `export DISPLAY=hostname:0.0`. Replace *hostname* with the name of the workstation where you want to use the Mobile Devices Administration Center.

To install DB2 Everyplace Enterprise Edition on a server, choose one of the following methods.

### Installing DB2 Everyplace Enterprise Edition by using the installation wizard

The DB2 Everyplace installation wizard copies files from the installation media such as a CD or compressed archive to a server.

### Prerequisites:

- Windows systems: Log in as an administrator.
- Linux and UNIX systems:
  - Log in as root user.
  - Add the following line to the login profile for each DB2 Everyplace Sync Server instance: `export DISPLAY=hostname:0.0`. Replace *hostname* with the name of the workstation where you want to use the Mobile Devices Administration Center.

You can choose one of the following installation types:

#### Typical

Select this type to install all DB2 Everyplace Sync Server, DB2 Everyplace Sync Client, and documentation files to default locations relative to a directory you specify. When you select this option, the installation wizard installs all locales for the DB2 Everyplace Sync Server and the DB2 Everyplace Sync Client.

#### Custom

Select this type to specify what DB2 Everyplace components that the installation wizard should install. When you select a custom installation, the installation wizard allows you to select any or all of the following options:

- Install DB2 Everyplace Database Engine and Sync Client
- Install DB2 Everyplace Sync Client
- Install all English language documentation

**Important:** The DB2 Everyplace installation media includes only English documentation. To access documentation in other languages, visit the DB2 Everyplace Library web page at <http://www.ibm.com/software/data/db2/everyplace/library.html>.

A custom installation allows you to save your specifications in a response file that you can use at a later time to automate the installation process on other systems.

### To install DB2 Everyplace Enterprise Edition by using the installation wizard:

1. Start the DB2 Everyplace Launchpad.

The procedure for starting the Launchpad varies depending on your operating system and whether you are installing from a CD or an archive (for example, a compressed file that you downloaded from [ibm.com](http://www.ibm.com)). The following table lists the procedures for starting the Launchpad from a CD on various operating systems.

Table 2. Starting the DB2 Everyplace Launchpad from a CD

Operating system	Procedure
Windows	<ol style="list-style-type: none"> <li>1. Log in as an administrator.</li> <li>2. Insert the DB2 Everyplace CD 1 into the CD-ROM drive.</li> <li>3. Copy Disc 1 to a temporary directory, hereafter referred to as &lt;TMPDIR&gt;.</li> <li>4. Insert the DB2 Everyplace CD 2 into the CD-ROM drive.</li> <li>5. Copy Disc 2 to &lt;TMPDIR&gt;.</li> <li>6. Run dsysetup.exe.</li> </ol>
Linux, AIX <sup>®</sup> and Solaris	<ol style="list-style-type: none"> <li>1. Log in as the root user.</li> <li>2. Mount the CD labeled Disc 1.</li> <li>3. Copy Disc 1 to a temporary directory, hereafter referred to as \$TMPDIR.</li> <li>4. Mount the CD labeled Disc 2.</li> <li>5. Copy Disc 2 to \$TMPDIR.</li> <li>6. Run dsysetup.</li> </ol>

The following table lists the procedures for starting the Launchpad from an archive on various operating systems.

Table 3. Starting the DB2 Everyplace Launchpad from an archive

Operating system	Procedure
Windows	<ol style="list-style-type: none"> <li>1. Unzip the archive file.</li> <li>2. Change to the DB2EveryplaceEnterprise91Windows directory.</li> <li>3. Run the dsysetup.exe file.</li> </ol>
Linux	<ol style="list-style-type: none"> <li>1. Log in as the root user.</li> <li>2. Untar the archive file.</li> <li>3. Change the working directory to DB2EveryplaceEnterprise91Linux.</li> <li>4. Run the ./dsysetup command.</li> </ol>
AIX	<ol style="list-style-type: none"> <li>1. Log in as the root user.</li> <li>2. Untar the archive file.</li> <li>3. Change the working directory to DB2EveryplaceEnterprise91AIX.</li> <li>4. Run the ./dsysetup command.</li> </ol>
Solaris	<ol style="list-style-type: none"> <li>1. Log in as the root user.</li> <li>2. Untar the archive file.</li> <li>3. Change the working directory to DB2EveryplaceEnterprise91Solaris.</li> <li>4. Run the ./dsysetup command.</li> </ol>

2. Click **Install** to start the installation wizard. If your server is connected to the Internet, you can also read the Release Notes and the installation instructions from the Web address on the Launchpad.
3. Proceed by following the wizard's prompts.
4. Click **Next** in the Pre-installation Summary page to copy the DB2 Everyplace files to your system.

**For AIX platforms:** If you are using the embedded version of DB2 Version 9.1 that is provided with DB2 Everyplace, perform the following steps *after* you install DB2 Everyplace and *before* you configure DB2 Everyplace.

1. Modify the login profile (typically `/home/<username>/.profile`), to include the following: `export EXTSHM=ON`.
2. Exit the user shell.
3. Login as the user (to make the changes effective) and open a new shell.
4. From the shell prompt, issue the following command:  
`db2set DB2ENVLIST=EXTSHM`
5. Restart the DB2 Version 9.1 instance.

You must configure DB2 Everyplace before you use the DB2 Everyplace Sync Server or the DB2 Everyplace Mobile Devices Administration Center. You can start the Configuration wizard from the Installation wizard by clicking **Configure** in the Post-Install Summary panel, or you can start the wizard manually later. You can also configure DB2 Everyplace by using the command-line configuration tool.

## Installing DB2 Everyplace Enterprise Edition by using a response file and the command-line installation tool

The command-line installation tool reads input from a file called a *response file*, and can automatically install DB2 Everyplace on multiple systems.

A response file is an ASCII text file that contains setup data. The response file can be generated either by performing a custom installation with the DB2 Everyplace installation wizard or by manually editing the sample response file that is provided in the `lib` directory of the CD or archive.

### To install DB2 Everyplace by using a response file and the command-line installation tool:

1. Open a command window and navigate to the top-level directory of the CD or archive.  
The command-line installation tool, `installSilent`, is in the top-level directory of the CD or archive.
2. Run the `installSilent` command.

#### Windows systems

```
installSilent.bat -silent -options full_path_to_response_file
```

#### Linux and UNIX systems

```
installSilent.sh -silent -options full_path_to_response_file
```

The following example starts the command-line installation tool on Windows and specifies `C:\db2eSilent.rsp` as the response file.

```
installSilent.bat -silent -options C:\db2eSilent.rsp
```

**For AIX platforms:** If you are using the embedded version of DB2 Version 9.1 that is provided with DB2 Everyplace, perform the following steps *after* you install DB2 Everyplace and *before* you configure DB2 Everyplace.

1. Modify the login profile (typically `/home/<username>/.profile`), to include the following: `export EXTSHM=ON`.
2. Exit the user shell.
3. Login as the user (to make the changes effective) and open a new shell.
4. From the shell prompt, issue the following command:  
`db2set DB2ENVLIST=EXTSHM`
5. Restart the DB2 Version 9.1 instance.

## Uninstalling DB2 Everyplace Enterprise Edition

Use the uninstallation wizard to remove DB2 Everyplace Enterprise Edition from your system.

**Prerequisites:** Before you use the uninstallation wizard, perform the following tasks:

### Windows systems

1. Log in as an administrator.
2. Back up all user data.
3. Unconfigure DB2 Everyplace before you remove it. You can unconfigure DB2 Everyplace by using the configuration wizard or the command-line configuration tool.
4. If you are using the embedded DB2 Version 9.1, drop all DB2 Everyplace databases, such as DSYCTLDB, DSYMSGDB, DSYCSTAT, VNURSE, and M\_VN2.

### Linux and UNIX systems

1. Log in as the root user.
2. Back up all user data.
3. Drop all DB2 Everyplace Sync Server instances. When you drop a DB2 Everyplace Sync Server instance, DB2 Everyplace unconfigures the instance and deletes the db2everyplace82 directory from the home directory of the instance.
4. If you are using the embedded version of DB2 Version 9.1:
  - a. Drop all DB2 Version 9.1 databases.
  - b. Drop all DB2 Version 9.1 instances.
  - c. Drop the DB2 Database Administration Server instance.

### To remove DB2 Everyplace Enterprise Edition:

1. Start the DB2 Everyplace uninstallation wizard.

#### Windows systems

Uninstall DB2 Everyplace by using either of the following methods:

- Run the DB2EveryplaceUninstall.exe file, which is located in the <DSYPATH>\Uninstaller directory.
- Use the Windows Add/Remove Programs feature.

#### Linux and UNIX systems

- a. Log in as the root user.
  - b. Run the DB2EveryplaceUninstall.bin file, which is located in the <DSYPATH>/Uninstaller directory.
2. Follow the instructions that are provided by the uninstallation wizard.
  3. Click **Finish** to delete the DB2 Everyplace files from your system. If an embedded version of DB2 Version 9.1 was installed by the DB2 Everyplace installation wizard, it is removed by the uninstallation wizard.

---

## Starting the First Steps launchpad

The First Steps launchpad provides links to sample applications and other resources that will help you to start using DB2 Everyplace.

**Prerequisite:** Install and configure DB2 Everyplace.

The First Steps launchpad has the following options:

## Create Sample

This option creates the DB2 Everyplace Visiting Nurse sample database. It also creates a sample application that you can use to explore the features of DB2 Everyplace.

**Restriction:** If you are using DB2 Everyplace in a distributed configuration, you must create the sample database separately. See the “Manually creating the Visiting Nurse sample database” topic for instructions.

## Demo client

This option launches the demo client in a separate command window. The demo client is a pre-configured client that is used to demonstrate synchronization with the DB2 Everyplace Sync Server.

## Information Library

This option opens a browser window to the DB2 Everyplace Information Center.

## Resources

This option opens the DB2 Everyplace product web site.

## To start the First Steps launchpad:

### Windows systems

Use either of the following methods to run the First Steps launchpad:

- Use the Start menu shortcut: **Start** → **Programs** → **IBM DB2 Everyplace Enterprise** → **Setup Tools** → **First Steps**
- Run the dsyfs command, which is located in the <DSYPATH>\Server\bin directory.

### Linux and UNIX systems

1. Log in as the DB2 Everyplace Sync Server instance user.
2. Run the dsyfs.sh script, which is located in the \$DSYINSTDIR/Server/bin directory.

## Manually creating the Visiting Nurse sample database

If you are running DB2 Everyplace in a distributed configuration, you cannot create the Visiting Nurse (VNURSE) sample database by using the First Steps launchpad. Instead, you must create the database manually.

Perform the following steps on the system that is running the DB2 Everyplace distributed database.

### Windows systems

Log in as the system administrator

### Linux and Unix systems

Log in as the DB2 Everyplace distributed database instance.

1. Open a command prompt and navigate to the <SQLLIB>\bin directory, where <SQLLIB> is the directory of the DB2 Version 9.1 instance that stores the DB2 Everyplace distributed database.
2. Issue the following command to open a DB2 CLP window: db2c1p
3. Select the DB2 CLP window. Navigate to the <DSYPATH>\config\backup\Server\sample directory.
4. Issue the following command to create the VNURSE database and tables: db2 -vtf VNurse.dd1
5. Verify that you can connect to the VNURSE database.

---

## Installing DB2 Everyplace on mobile devices

Topics in this section explain how to install the DB2 Everyplace database and DB2 Everyplace Sync Client on a mobile device.



## DB2 Everyplace mobile device requirements

Before you install DB2 Everyplace on a mobile device, make sure that DB2 Everyplace supports your mobile device.

See <http://www.ibm.com/software/data/db2/everyplace/requirements/index.html> for a list of mobile devices that DB2 Everyplace supports.

## Installing DB2 Everyplace Database Edition on a Mobile Device

Installing DB2 Everyplace Database Edition is a two-step process. Topics in this section explain the second step, installing the DB2 Everyplace database on a mobile device.

### Installing DB2 Everyplace Database Edition files on a Linux mobile device

The process of installing DB2 Everyplace Database Edition onto a Linux mobile device consists of transferring files from the server (or some other location where the DB2 Everyplace files reside) to the mobile device.

#### Prerequisites:

Make sure that the required runtime library is installed on the Linux mobile device. The following table lists required runtime libraries for various processors.

Table 4. Required run-time libraries

Processor	Library
x86	glibc-2.2.4-13
StrongARM	glibc-2.2.5
XScale	glibc-2.2.5

Depending on the type of mobile device that you are using, there might be additional prerequisites for installing DB2 Everyplace on the Linux mobile device.

#### To install DB2 Everyplace on a Linux mobile device:

1. Use one of the following methods to transfer the files from the DB2 Everyplace Database Server to the Linux mobile device:
  - Serial connection between the mobile device and your workstation using XModem or Kermit protocols
  - Ethernet connection between the mobile device and your workstation using FTP software
  - Floppy disk, if supported by your mobile device

Transfer the following files from the <DSYPATH>\Clients\linux\database\ directory to the mobile device. In the following table, *proc* is a processor type and *lang* is a language code.

Table 5. QNX database files

File name	Description
<i>proc</i> \libcryptoplugin.so	Encryption library
<i>proc</i> \libdb2e.so	DB2 Everyplace database engine
<i>proc</i> \libdb2ejdbc.so	DB2 Everyplace JDBC driver
<i>proc</i> \libpvcpkcs11.so	
jdbc\db2ejdbc.jar	DB2 Everyplace JDBC driver
jdbc\DB2eAppl.class	Sample Java™ application
<i>lang</i> DB2eCLP\ <i>proc</i> \DB2eCLP	Command-line processor executable

2. **Optional:** Copy the development libraries to the mobile device. The DB2 Everyplace development library generates trace data in addition to the diagnostic data that release libraries generate. This data helps you troubleshoot problems as you develop and test DB2 Everyplace applications.

The development library is located in the directories that end in "Dev". For example, the development library for Linux mobile devices with x86 processors is located in the <DSYPATH>\Clients\linux\database\x86Dev directory. To install this library transfer the files from the Dev directory instead of the non-Dev directory.

3. On the mobile device, set the environment variable LD\_LIBRARY\_PATH to the path where the DB2 Everyplace CLI shared library (libdb2e.so) is installed.

**Example:** If the DB2 Everyplace CLI shared library is in the <DSYPATH>/database/x86 directory, append <DSYPATH>/database/x86 to the existing LD\_LIBRARY\_PATH by using the following statement:

```
export LD_LIBRARY_PATH=/DB2e/database/x86:$LD_LIBRARY_PATH
```

## Installing DB2 Everyplace Database Edition files on a Palm OS mobile device

The process of installing DB2 Everyplace Database Edition onto a Palm OS mobile device consists of transferring files from the server (or some other location where the DB2 Everyplace files reside) to the mobile device.

### Prerequisites:

1. On a Windows workstation, install and configure the HotSync connection software that was included with the Palm OS mobile device.
2. Connect the Palm OS mobile device to the Windows workstation. Refer to the documentation that came with the mobile device to ensure that the mobile device is connected correctly.

**Important:** PalmOS applications that were compiled for DB2 Everyplace Version 8.1.4 and previous releases do not work with the db2e.lib file that is included with DB2 Everyplace Version 9.1. You must re-link these applications with the new db2e.lib file before you can use them.

### To install DB2 Everyplace on a Palm OS mobile device:

The method that you need to use to install DB2 Everyplace depends on whether you are using a mobile device or an emulator.

#### Mobile device

On the workstation, use the Install Tool of the HotSync connection software that is included with the Palm OS mobile device to install the files. After you install the files, perform a HotSync function to complete the installation of the DB2 Everyplace files to the Palm OS mobile device.

#### Emulator

Drag and drop the files into the emulator window. After you install all of the files, reset the emulator.

Transfer the following files from the <DSYPATH>\Clients directory to the mobile device. In this table, *lang* is a language code.

Table 6. Palm OS database files

File name	Description
palmos\database\CryptoPlugin.prc	Encryption library
palmos\database\DB2eCat.prc	DB2 Everyplace database engine
palmos\database\DB2eCLI.prc	DB2 Everyplace database engine
palmos\database\DB2eComp.prc	DB2 Everyplace database engine
palmos\database\DB2eDMS.prc	DB2 Everyplace database engine
palmos\database\DB2eRunTime.prc	DB2 Everyplace database engine

Table 6. Palm OS database files (continued)

File name	Description
palmos\database\PBSPkcs11.prc	Encryption library
palmos\database\lang\DB2eCLP\DB2eCLP.prc	DB2 Everyplace command-line processor

**Restriction:** Encryption support is available only on Palm OS Version 4.1 or later. Install the PBSPkcs11.prc to use encryption between a Palm OS mobile device and the DB2 Everyplace Sync Server.

## Installing DB2 Everyplace Database Edition files on a QNX Neutrino mobile device

The process of installing DB2 Everyplace Database Edition onto a QNX Neutrino mobile device consists of transferring files from the server (or some other location where the DB2 Everyplace files reside) to the mobile device.

### To install DB2 Everyplace on a QNX Neutrino mobile device:

1. Use one of the following methods to transfer the files from the DB2 Everyplace Database Server to the QNX mobile device:
  - Serial connection between the device and your workstation using XModem or Kermit protocols.
  - Ethernet connection between the device and your workstation using FTP software.
  - Floppy disk, if supported by your device.

Transfer the following files from the <DSYPATH>\Clients\neutrino\database\ directory to the mobile device. In the following table, *proc* is a processor type and *lang* is a language code.

Table 7. QNX database files

File name	Description
<i>proc</i> \libcryptoplugin.so	Encryption library
<i>proc</i> \libdb2e.so	DB2 Everyplace database engine
<i>proc</i> \libdb2ejdbc.so	DB2 Everyplace JDBC driver
<i>proc</i> \libvcpkcs11.so	
jdbc\db2ejdbc.jar	DB2 Everyplace JDBC driver
jdbc\DB2eAppl.class	Sample Java application
DB2eCLP\ <i>proc</i> \DB2eCLP	Command Line Processor executable

**Restriction:** The libcryptoplugin.so and libvcpkcs11.so libraries cannot be used with the J9 JVM.

2. **Optional:** Copy the development libraries to the mobile device. The DB2 Everyplace development library generates trace data in addition to the diagnostic data that release libraries generate. This data helps you troubleshoot problems as you develop and test DB2 Everyplace applications.

The development library is located in the directories that end in "Dev". For example, the development library for QNX mobile devices with x86 processors is located in the <DSYPATH>\Clients\neutrino\database\x86Dev directory. To install this library, transfer the files from the Dev directory to the mobile device.

3. On the mobile device, set the environment variable LD\_LIBRARY\_PATH to the path where the DB2 Everyplace CLI shared library (libdb2e.so) is installed.

**Example:** If the DB2 Everyplace CLI shared library is in the <DSYPATH>/database/x86 directory, append <DSYPATH>/database/x86 to the existing LD\_LIBRARY\_PATH by using the following statement:

```
export LD_LIBRARY_PATH=/DB2e/database/x86:$LD_LIBRARY_PATH
```

4. Start the mqueue process to enable encryption.

- a. To ensure the mqueue process is running, run the ps command. A list of active processes is displayed on the device.
- b. Verify that mqueue is listed. If not, use the mqueue command to start the process. If the application terminates unexpectedly after you initialize the encryption library, the library might be corrupted.

## Installing DB2 Everyplace Database Edition files on a Symbian OS mobile device

To install the DB2 Everyplace Database Edition files and the sample application files, configure the connection software that was included with the mobile device, connect the mobile device to the workstation, and then use the Install Tool.

### Prerequisites:

1. On a Windows workstation, install and configure the connection software that was included with the Symbian OS mobile device.
2. Connect the Symbian OS mobile device to the workstation. Use the documentation included with the mobile device to ensure that the device is correctly connected.

### To install DB2 Everyplace on a Symbian OS mobile device:

Use the Install Tool from the connection software that is included with the mobile device to perform the installation process.

Transfer the following files from the <DSYPATH>\Clients\platform\database directory to the mobile device, where *platform* is the version of Symbian OS that you are using. In the following tables, *proc* is a processor type, such as *armi* or *wins*.

Table 8. DB2 Everyplace database files for Symbian OS Version 7

File name	Description
proc\DB2e.sis	DB2 Everyplace database engine
proc\db2ejdbc.sis	DB2 Everyplace JDBC driver
lang\DB2eCLP\proc\DB2eCLP.sis	DB2 Everyplace command-line processor
lang\install\UIQ\proc\DB2e_Symbian7.sis	DB2 Everyplace package (includes all of the preceding files in a single package)

Table 9. DB2 Everyplace database files for Symbian OS Version 7s

File name	Description
proc\DB2e.sis	DB2 Everyplace database engine
proc\DB2eJDBC.sis	DB2 Everyplace JDBC driver
lang\DB2eCLP\proc\DB2eCLP.sis	DB2 Everyplace command-line processor
lang\install\Series80\proc\DB2e_Symbian7s.sis	DB2 Everyplace package (includes all of the preceding files in a single package)

Sample application files for Symbian OS mobile devices are located in the <DSYPATH>\Clients\platform\database\lang directory.

## Installing DB2 Everyplace Database Edition files on a Windows CE mobile device

The process of installing DB2 Everyplace Database Edition onto a Windows CE mobile device consists of transferring files from the server (or some other location where the DB2 Everyplace files reside) to the mobile device.

### Prerequisites:

1. On a Windows workstation, install and configure the Windows CE Services software (also known as ActiveSync) that was included with the Windows CE mobile device.
2. Connect the Windows CE mobile device to the Windows workstation. Use the mobile device's documentation to ensure that the mobile device is connected correctly.
3. The CryptoPlugin.dll library that is provided by DB2 Everyplace requires Microsoft High Encryption Pack for Pocket PC V1.0. The encryption pack comes with Windows Mobile 2003 for Pocket PC, but you must install it for Pocket PC 2000 and 2002.

Download the encryption pack from:

<http://www.microsoft.com/windowsmobile/downloads/highencryption.msp>.

If the CryptoPlugin.dll library is present, but the encryption pack is not installed, applications will not be able to connect to any database. If an application requires encryption, install the Microsoft High Encryption Pack for Pocket PC V1.0. If you do not need encryption support, delete the CryptoPlugin.dll file from the Windows directory on the Pocket PC device.

If you are using Windows Mobile 2003 for Pocket PC, you do not need to install the encryption pack or remove the CryptoPlugin.dll library.

### To install the DB2 Everyplace files on a Windows CE device:

1. Use the Install Tool from the Windows CE Services connection software to transfer the following files from the <DSYPATH>\Clients\wince\database\ directory to the mobile device.

In the following table, *ver* is the Windows CE version, for example, v3 for version 3, or v4 for version 4; and *proc* is the processor type, for example, ARMRel or X86Rel.

Table 10. Windows CE database files

File Name	Description
jdbc\db2ejdbc.jar	DB2 Everyplace JDBC driver
<i>ver</i> \proc\CryptoPlugin.dll	DB2 Everyplace database engine for data encryption
<i>ver</i> \proc\DB2e.dll	DB2 Everyplace database engine
<i>ver</i> \proc\DB2eJDBC.dll	DB2 Everyplace JDBC driver

2. **Optional:** Copy the development libraries to the mobile device. The DB2 Everyplace development library generates trace data in addition to the diagnostic data that release libraries generate. This data helps you troubleshoot problems as you develop and test DB2 Everyplace applications.

The development library is located in the directories that end in "Dev". For example, the development library for Windows CE version 3 mobile devices with Arm processors is located in the <DSYPATH>\Clients\v3\database\armDev directory. To install this library transfer the files from the Dev directory to the mobile device.

### Installing DB2 Everyplace Database Edition files on a Windows mobile device

The process of installing DB2 Everyplace Database Edition onto a Windows mobile device consists of transferring files from the server (or some other location where the DB2 Everyplace files reside) to the mobile device.

### To install DB2 Everyplace files on a Windows mobile device:

1. Transfer the following files from the <DSYPATH>\Clients\win32\database\ directory to the mobile device. In the following table, *lang* is a language code.

Table 11. Windows database files

File name	Description
x86\CryptoPlugin.dll	DB2 Everyplace encryption library
x86\DB2e.dll	DB2 Everyplace database engine

Table 11. Windows database files (continued)

File name	Description
x86\DB2eJDBC.dll	DB2 Everyplace JDBC driver
x86\DB2eODBC.dll	DB2 Everyplace ODBC driver
jdbc\db2ejdbc.jar	DB2 Everyplace JDBC driver
jdbc\DB2eAppl.class	Sample Java application
jdbc\DB2eJavaCLP.class	Command-line processor written in Java
lang\DB2eCLP\non-unicode\DB2eCLP.exe	Command-line processor executable
x86\ODBCInst.exe	Registers the DB2 Everyplace ODBC driver

2. **Optional:** Copy the development libraries to the mobile device. The DB2 Everyplace development library generates trace data in addition to the diagnostic data that release libraries generate. This data helps you troubleshoot problems as you develop and test DB2 Everyplace applications.

The development library is located in the directories that end in "Dev". For example, the development library for Windows mobile devices with x86 processors is located in the <DSYPATH>\Clients\win32\database\x86Dev directory. To install this library transfer the files from the Dev directory to the mobile device.

## Installing DB2 Everyplace Enterprise Edition on a mobile device

This topic lists requirements and procedures for installing DB2 Everyplace Enterprise Edition on a specific mobile platform.

### Installing DB2 Everyplace Enterprise Edition files on a Linux mobile device

The process of installing DB2 Everyplace Enterprise Edition onto a Linux mobile device consists of transferring files from the server (or some other location where the DB2 Everyplace files reside) to the mobile device.

#### Prerequisites:

Make sure that the required runtime library is installed on the Linux mobile device. The following table lists required runtime libraries for various processors.

Table 12. Required run-time libraries

Processor	Library
x86	glibc-2.2.4-13
StrongARM	glibc-2.2.5
XScale	glibc-2.2.5

Depending on the type of mobile device that you are using, there might be additional prerequisites for installing DB2 Everyplace on the Linux mobile device.

#### To install DB2 Everyplace files on a Linux mobile device:

1. Use one of the following methods to transfer the files from the DB2 Everyplace Database Server to the Linux mobile device:
  - Serial connection between the mobile device and your workstation using XModem or Kermit protocols
  - Ethernet connection between the mobile device and your workstation using FTP software
  - Floppy disk, if supported by your mobile device

Transfer the following files from the <DSYPATH>\Clients\linux\database\ directory to the mobile device. In the following table, *proc* is a processor type and *lang* is a language code.

Table 13. QNX database files

File name	Description
<i>proc</i> \libcryptoplugin.so	Encryption library
<i>proc</i> \libdb2e.so	DB2 Everyplace database engine
<i>proc</i> \libdb2ejdbc.so	DB2 Everyplace JDBC driver
<i>proc</i> \libpvcpkcs11.so	
jdbc\db2ejdbc.jar	DB2 Everyplace JDBC driver
jdbc\DB2eAppl.class	Sample Java application
<i>lang</i> DB2eCLP\ <i>proc</i> \DB2eCLP	Command-line processor executable

2. **Optional:** Copy the development libraries to the mobile device. The DB2 Everyplace development library generates trace data in addition to the diagnostic data that release libraries generate. This data helps you troubleshoot problems as you develop and test DB2 Everyplace applications.

The development library is located in the directories that end in "Dev". For example, the development library for Linux mobile devices with x86 processors is located in the <DSYPATH>\Clients\linux\database\x86Dev directory. To install this library transfer the files from the Dev directory instead of the non-Dev directory.

3. Make sure that the `usr/lib/DB2e/` directory on the mobile device has write permissions enabled.
4. Install the DB2 Everyplace Sync Client files.

Copy the following library files from the <DSYPATH>\clients\linux\sync\*proc* directory on into the `usr/lib/DB2e/` directory on the mobile device:

Table 14. Linux DB2 Everyplace Sync Client files

File Name	Description
libimsaconfig.so	IBM Sync Configuration adapter
libimsadb2e.so	IBM Sync DB2 Everyplace adapter
libimsafile.so	IBM Sync File adapter
libisync4j.so	IBM Sync Java interface
isync4j.jar	IBM Sync Java interface
libisyncconf.so	IBM Sync engine
libisyncore.so	IBM Sync engine
libisyncstat.so	DB2 Everyplace Sync Client statistics
libisyncxpt.so	IBM Sync transport library
libwbxml.so	IBM Sync WBXML library

5. **Optional:** If you want to use SSL with DB2 Everyplace, obtain the OpenSSL libraries (libcrypto.so, libssl.so) from <http://www.openssl.org> and install them on your mobile device.

**Important:** DB2 Everyplace 9.1 currently supports only version 0.9.7.

6. **Optional:** Install the DB2 Sync Console. Copy the `db2sync_console` file from the <DSYPATH>\Clients\linux\sync\*lang*\*proc* directory to the `usr/lib/DB2e/` directory on the mobile device.
7. On the mobile device, set the environment variable `LD_LIBRARY_PATH` to the path where the DB2 Everyplace CLI shared library (libdb2e.so) is installed.

**Example:** If the DB2 Everyplace CLI shared library is in the <DSYPATH>/database/x86 directory, append <DSYPATH>/database/x86 to the existing `LD_LIBRARY_PATH` by using the following statement:

```
export LD_LIBRARY_PATH=/DB2e/database/x86:$LD_LIBRARY_PATH
```

8. Set the environment variable LD\_LIBRARY\_PATH to the path where the DB2 Everyplace Sync Client files are installed. Use the same procedure as the previous step.

The DB2 Everyplace Sync Client uses the code page Cp1252 as the default. To synchronize data of a different code page, include the config-isyn file in the directory where the application is run.

## Installing DB2 Everyplace Enterprise Edition files on a Palm OS mobile device

The process of installing DB2 Everyplace Enterprise Edition onto a Palm OS mobile device consists of transferring files from the server (or some other location where the DB2 Everyplace files reside) to the mobile device.

### Prerequisites:

1. On a Windows workstation, install and configure the HotSync connection software that was included with the Palm OS mobile device.
2. Connect the Palm OS mobile device to the Windows workstation. Refer to the documentation that came with the mobile device to ensure that the mobile device is connected correctly.

**Important:** PalmOS applications that were compiled for DB2 Everyplace Version 8.1.4 and previous releases do not work with the db2e.lib file that is included with DB2 Everyplace Version 9.1. You must re-link these applications with the new db2e.lib file before you can use them.

### To install DB2 Everyplace on a Palm OS mobile device:

The method that you need to use to install DB2 Everyplace depends on whether you are using a mobile device or an emulator.

#### Mobile device

On the workstation, use the Install Tool of the HotSync connection software that is included with the Palm OS mobile device to install the files. After you install the files, perform a HotSync function to complete the installation of the DB2 Everyplace files to the Palm OS mobile device.

#### Emulator

Drag and drop the files into the emulator window. After you install all of the files, reset the emulator.

1. Transfer the following files from the <DSYPATH>\Clients directory to the mobile device. In this table, *lang* is a language code.

Table 15. Palm OS database files

File name	Description
palmos\database\CryptoPlugin.prc	Encryption library
palmos\database\DB2eCat.prc	DB2 Everyplace database engine
palmos\database\DB2eCLI.prc	DB2 Everyplace database engine
palmos\database\DB2eComp.prc	DB2 Everyplace database engine
palmos\database\DB2eDMS.prc	DB2 Everyplace database engine
palmos\database\DB2eRunTime.prc	DB2 Everyplace database engine
palmos\database\PBSPkcs11.prc	Encryption library
palmos\database\lang\DB2eCLP\DB2eCLP.prc	DB2 Everyplace command-line processor

**Restriction:** Encryption support is available only on Palm OS Version 4.1 or later. Install the PBSPkcs11.prc to use encryption between a Palm OS mobile device and the DB2 Everyplace Sync Server.



2. **Optional:** Transfer the following DB2 Everyplace Sync Client files from the <DSYPATH>\Clients\palmos\sync\ directory to the mobile device. In this table, *lang* is a language code.

Table 16. Palm OS DB2 Everyplace Sync Client files

File name	Description
imsaconfig.prc	IBM Sync Configuration adapter
imsadb2e.prc	IBM Sync DB2 Everyplace adapter
imsafile.prc	IBM Sync File adapter
isynconf.prc	IBM Sync engine
isyncore.prc	IBM Sync engine
isyncstat.prc	IBM Sync statistics
isyncxpt.prc	IBM Sync transport library
SSLlib.prc	IBM Sync SSL library
wbxmlib.prc	IBM Sync WBXML library
\lang\ db2sync.prc	DB2 Everyplace Sync Client GUI
\lang\ dsyagent.prc	IBM Sync Remote Stored Procedure adapter
\lang\ upgrade\ iUpgrade.prc	IBM Sync Auto Deploy

3. Configure the code page. The Palm OS DB2 Everyplace Sync Client attempts to determine the code page from the read-only memory, but uses the code page Cp1252 as the default if it does not find any features. To synchronize data of a different code page, include the config-isyn.pdb file for the appropriate language.

## Installing DB2 Everyplace Enterprise Edition files on a QNX Neutrino mobile device

The process of installing DB2 Everyplace Enterprise Edition onto a QNX Neutrino mobile device consists of transferring files from the server (or some other location where the DB2 Everyplace files reside) to the mobile device.

**Prerequisite:** The DB2 Everyplace Sync Client requires QNX Neutrino 6.2 and later.

### To install DB2 Everyplace on a QNX Neutrino mobile device:

1. Use one of the following methods to transfer the files from the DB2 Everyplace Database Server to the QNX mobile device:
  - Serial connection between the device and your workstation using XModem or Kermit protocols.
  - Ethernet connection between the device and your workstation using FTP software.
  - Floppy disk, if supported by your device.

Transfer the following files from the <DSYPATH>\Clients\neutrino\database\ directory to the mobile device. In the following table, *proc* is a processor type and *lang* is a language code.

Table 17. QNX database files

File name	Description
<i>proc</i> \libcryptoplugin.so	Encryption library
<i>proc</i> \libdb2e.so	DB2 Everyplace database engine
<i>proc</i> \libdb2ejdbc.so	DB2 Everyplace JDBC driver
<i>proc</i> \libpvcpkcs11.so	
jdbc\db2ejdbc.jar	DB2 Everyplace JDBC driver
jdbc\DB2eAppl.class	Sample Java application

Table 17. QNX database files (continued)

File name	Description
DB2eCLP\proc\DB2eCLP	Command Line Processor executable

**Restriction:** The libcryptoplugin.so and libvcpkcs11.so libraries cannot be used with the J9 JVM.

2. **Optional:** Copy the development libraries to the mobile device. The DB2 Everyplace development library generates trace data in addition to the diagnostic data that release libraries generate. This data helps you troubleshoot problems as you develop and test DB2 Everyplace applications.

The development library is located in the directories that end in "Dev". For example, the development library for QNX mobile devices with x86 processors is located in the <DSYPATH>\Clients\neutrino\database\x86Dev directory. To install this library, transfer the files from the Dev directory to the mobile device.

3. Install the DB2 Everyplace Sync Client files.

Copy the following library files from the <DSYPATH>\clients\neutrino\sync\proc directory on into the usr/lib/DB2e/ directory on the mobile device:

Table 18. QNX Neutrino DB2 Everyplace Sync Client files

File Name	Description
libimsaconfig.so	IBM Sync Configuration adapter
libimsadb2e.so	IBM Sync DB2 Everyplace adapter
libimsafile.so	IBM Sync File adapter
libisync4j.so	IBM Sync Java interface
isync4j.jar	IBM Sync Java interface
libisyncconf.so	IBM Sync engine
libisyncore.so	IBM Sync engine
libisyncstat.so	DB2 Everyplace Sync Client statistics
libisyncxpt.so	IBM Sync transport library
libwbxml.so	IBM Sync WBXML library

4. **Optional:** Install the DB2 Sync Console. Copy the db2sync\_console file from the <DSYPATH>\Clients\neutrino\sync\lang\proc directory to the usr/lib/DB2e/ directory on the mobile device.
5. On the mobile device, set the environment variable LD\_LIBRARY\_PATH to the path where the DB2 Everyplace CLI shared library (libdb2e.so) is installed.

**Example:** If the DB2 Everyplace CLI shared library is in the <DSYPATH>/database/x86 directory, append <DSYPATH>/database/x86 to the existing LD\_LIBRARY\_PATH by using the following statement:

```
export LD_LIBRARY_PATH=/DB2e/database/x86:$LD_LIBRARY_PATH
```

6. Start the mqueue process to enable encryption.
  - a. To ensure the mqueue process is running, run the ps command. A list of active processes is displayed on the device.
  - b. Verify that mqueue is listed. If not, use the mqueue command to start the process. If the application terminates unexpectedly after you initialize the encryption library, the library might be corrupted.

The DB2 Everyplace Sync Client uses the code page Cp1252 as the default. To synchronize data of a different code page, include the config-isyn file in the directory where the application is run.

## Installing DB2 Everyplace Enterprise Edition files on a Symbian OS mobile device

To install the DB2 Everyplace database files, the sample application files, and the DB2 Everyplace Sync Client files, configure the connection software that was included with the mobile device, connect the mobile device to the workstation, and then use the Install tool.

**Prerequisites:**

1. On a Windows workstation, install and configure the connection software that was included with the Symbian OS mobile device.
2. Connect the Symbian OS mobile device to the workstation. Use the documentation included with the mobile device to ensure that the device is correctly connected.

**To install DB2 Everyplace on a Symbian OS mobile device:**

Use the Install Tool from the connection software that is included with the mobile device to perform the installation process.

1. Transfer the following files from the <DSYPATH>\Clients\platform\database directory to the mobile device, where *platform* is the version of Symbian OS that you are using. In the following tables, *proc* is a processor type, such as *armi* or *wins*.

Table 19. DB2 Everyplace database files for Symbian OS Version 7

File name	Description
<i>proc</i> \DB2e.sis	DB2 Everyplace database engine
<i>proc</i> \db2ejdbc.sis	DB2 Everyplace JDBC driver
<i>lang</i> \DB2eCLP\proc\DB2eCLP.sis	DB2 Everyplace command-line processor
<i>lang</i> \install\UIQ\proc\DB2e_Symbian7.sis	DB2 Everyplace package (includes all of the preceding files in a single package)

Table 20. DB2 Everyplace database files for Symbian OS Version 7s

File name	Description
<i>proc</i> \DB2e.sis	DB2 Everyplace database engine
<i>proc</i> \DB2eJDBC.sis	DB2 Everyplace JDBC driver
<i>lang</i> \DB2eCLP\proc\DB2eCLP.sis	DB2 Everyplace command-line processor
<i>lang</i> \install\Series80\proc\DB2e_Symbian7s.sis	DB2 Everyplace package (includes all of the preceding files in a single package)

Sample application files for Symbian OS mobile devices are located in the <DSYPATH>\Clients\platform\database\lang directory.

2. Install the DB2 Everyplace Sync Client files listed in the following tables.

Transfer the following files from the <DSYPATH>\Clients\platform\sync\proc directory to the mobile device, where *platform* is the version of Symbian OS that you are using. In the following tables, *proc* is a processor type, such as *armi* or *wins*.

Table 21. DB2 Everyplace Sync Client files for Symbian OS Version 7

File name	Description
<i>proc</i> \DB2Sync.sis	DB2 Everyplace Sync Client
upgrade\IUpgrade.app	IBM Update Tool
upgrade\IUpgrade.rsc	IBM Update Tool

Table 22. DB2 Everyplace Sync Client files for Symbian OS Version 7s

File name	Description
<i>proc</i> \DB2Sync.sis	DB2 Everyplace Sync Client

## Installing DB2 Everyplace Enterprise Edition files on a Symbian OS Version 7 emulator

**Prerequisite:** On a Windows workstation, install and configure the connection software that came with the Symbian OS Version 7 mobile device emulator.

**To install DB2 Everyplace files on a Symbian OS Version 7 device emulator:** In the following instructions, the path Symbian\UIQ\_70\epoc32\release\wincsw\udeb\ will be indicated by <DSYSYMBIAN>.

1. In the Symbian emulator directory, create the following directories:
  - <DSYSYMBIAN>\Z\System\APPS\DB2Sync
  - <DSYSYMBIAN>\Z\System\APPS\SampleCLP
2. Copy the DLL files from <DSYPATH>\Clients\symbian7\database\wins to <DSYSYMBIAN>.
3. Copy the DLL files from <DSYPATH>\Clients\symbian7\sync\en\_US\wins to <DSYSYMBIAN>.
4. Copy the following files from <DSYPATH>\Clients\symbian7\database\en\_US\DB2eCLP\wins to <DSYSYMBIAN>\Z\System\APPS\SampleCLP:
  - SampleCLP.aif
  - SampleCLP.app
  - SampleCLP.mbm
  - SampleCLP.rsc
5. Copy the following files from <DSYPATH>\Clients\symbian7\sync\en\_US\wins to <DSYSYMBIAN>\Z\System\APPS\DB2Sync:
  - DB2SYNC.AIF
  - DB2SYNC.APP
  - DB2SYNC.RSC

Symbian has provided a development tool that allows the Symbian emulator to use the host's networking. You can use this tool to set up networking for synchronization. For more information, see <http://www.symbian.com/developer/downloads/tools.html#winsoc>

## Installing DB2 Everyplace Enterprise Edition on a Windows CE mobile device

The process of installing DB2 Everyplace Enterprise Edition onto a Windows CE mobile device consists of transferring files from the server (or some other location where the DB2 Everyplace files reside) to the mobile device.

### Prerequisites:

1. On a Windows workstation, install and configure the Windows CE Services software (also known as ActiveSync) that was included with the Windows CE mobile device.
2. Connect the Windows CE mobile device to the Windows workstation. Use the mobile device's documentation to ensure that the mobile device is connected correctly.
3. The CryptoPlugin.dll library that is provided by DB2 Everyplace requires Microsoft High Encryption Pack for Pocket PC V1.0. The encryption pack comes with Windows Mobile 2003 for Pocket PC, but you must install it for Pocket PC 2000 and 2002.

Download the encryption pack from:

<http://www.microsoft.com/windowsmobile/downloads/highencryption.msp>.

If the CryptoPlugin.dll library is present, but the encryption pack is not installed, applications will not be able to connect to any database. If an application requires encryption, install the Microsoft High Encryption Pack for Pocket PC V1.0. If you do not need encryption support, delete the CryptoPlugin.dll file from the Windows directory on the Pocket PC device.

If you are using Windows Mobile 2003 for Pocket PC, you do not need to install the encryption pack or remove the CryptoPlugin.dll library.

### To install the DB2 Everyplace files on a Windows CE mobile device:

1. Use the Install Tool from the Windows CE Services connection software to transfer the following files from the <DSYPATH>\Clients\wince\database\ directory to the mobile device.

In the following table, *ver* is the Windows CE version, for example, v3 for version 3, or v4 for version 4; and *proc* is the processor type, for example, ARMRel or X86Rel.

Table 23. Windows CE database files

File Name	Description
jdbc\db2ejdbc.jar	DB2 Everyplace JDBC driver
<i>ver</i> \proc\CryptoPlugin.dll	DB2 Everyplace database engine for data encryption
<i>ver</i> \proc\DB2e.dll	DB2 Everyplace database engine
<i>ver</i> \proc\DB2eJDBC.dll	DB2 Everyplace JDBC driver

2. **Optional:** Copy the development libraries to the mobile device. The DB2 Everyplace development library generates trace data in addition to the diagnostic data that release libraries generate. This data helps you troubleshoot problems as you develop and test DB2 Everyplace applications.

The development library is located in the directories that end in "Dev". For example, the development library for Windows CE version 3 mobile devices with Arm processors is located in the <DSYPATH>\Clients\v3\database\armDev directory. To install this library transfer the files from the Dev directory to the mobile device.

3. If you want to use the DB2 Everyplace Sync Client, you can install the individual files to a Windows CE mobile device directly, or you can install it using CAB files.

**Restriction:** DB2 Everyplace Sync Client XScale libraries are available only for devices that run Windows CE 4.x. For Windows CE 3.0 (most Pocket PC 2000 and 2002 devices), use DB2 Everyplace Sync Client libraries from ARM. For the DB2 Everyplace mobile database, XScale libraries are available for Windows CE 3 and 4.

### To copy individual DB2 Everyplace Sync Client files to the mobile device:

Copy the following files from the <DSYPATH>\Clients\wince\sync\lang\ver\proc to the \Windows directory on the mobile device.

Table 24. Windows CE DB2 Everyplace Sync Client files

File Name	Description
db2sync.exe	DB2 Everyplace Sync Client GUI
dsyagent.dll	IBM Sync remote stored procedure adapter
imsaconfig.dll	IBM Sync configuration adapter
imsadb2e.dll	IBM Sync DB2 Everyplace adapter
imsafile.dll	IBM Sync file adapter
isync4j.dll	IBM Sync Java interface
isync4j.jar	IBM Sync Java interface
isyncconf.dll	IBM Sync engine
isyncore.dll	IBM Sync engine
isyncstat.dll	DB2 Everyplace Sync Client statistics
isyncxpt.dll	IBM Sync transport library
wbxmllib.dll	IBM Sync WBXML library
upgrade\iUpgrade.exe	IBM Sync Auto Deploy

**To install the DB2 Everyplace Sync Client to the mobile device using CAB files:**

Copy the following CAB files from the <DSYPATH>\Clients\wince\sync\lang\install directory to the mobile device. When you install the CAB files, Windows CE installs the DLL and JAR files to the \Windows directory on the mobile device. The EXE files are installed in \Program Files\DB2 Everyplace Samples\ and \Program Files\DB2 Everyplace Sync Server\.

Table 25. Windows CE DB2 Everyplace Sync Client CAB files

File Name	Description
db2evver.proc.cab	DB2 Everyplace database files including JDBC driver
sampwcever.proc.cab	DB2 Everyplace sample applications including DB2eCLP, VNurse
db2enmpcf.cab	DB2 Everyplace ADO.NET provider
syncvver.proc.cab	DB2 Everyplace Sync Client files including Java wrapper
isyncnmp.cab	DB2 Everyplace Sync Client ISync.NET provider

4. **Optional:** Install the DB2 Everyplace Sync Client libraries for Windows CE emulators. If you want to test the DB2 Everyplace Sync Client on a Windows CE emulator, copy the following files to your Windows CE emulator directory.

**Important:** DB2 Everyplace Sync Client libraries are not supported on the STANDARD SDK emulator that comes with Embedded Visual C++ 4.0. Use the Windows Mobile 2003 for Pocket PC emulator instead.

Table 26. DB2 Everyplace Sync Client libraries for emulators

File Name	Description
\Clients\WinCE\sync\lang\v3\X86EMRel	Pocket PC 2000 emulator
\Clients\WinCE\sync\lang\v3\X86Rel	Pocket PC 2002/Windows Mobile 2003 for Pocket PC emulator
\Clients\WinCE\sync\lang\v4\emulatorRel	WinCE .NET emulator

5. Perform a sync function to complete the installation of the DB2 Everyplace libraries and application files to the Windows CE mobile device.

## Installing DB2 Everyplace Enterprise Edition files on a Windows mobile device

The process of installing DB2 Everyplace Enterprise Edition onto a Windows mobile device consists of transferring files from the server (or some other location where the DB2 Everyplace files reside) to the mobile device.

### Prerequisite:

You must install the Microsoft Strong Encryption download (available from Microsoft) for your operating system if you want to use encryption between Windows clients and the DB2 Everyplace Sync Server.

### To install DB2 Everyplace files on a Windows client:

1. Transfer the following files from the <DSYPATH>\Clients\win32\database\ directory to the mobile device. In the following table, lang is a language code.

Table 27. Windows database files

File name	Description
x86\CryptoPlugin.dll	DB2 Everyplace encryption library
x86\DB2e.dll	DB2 Everyplace database engine
x86\DB2eJDBC.dll	DB2 Everyplace JDBC driver

Table 27. Windows database files (continued)

File name	Description
x86\DB2eODBC.dll	DB2 Everyplace ODBC driver
jdbc\db2ejdbc.jar	DB2 Everyplace JDBC driver
jdbc\DB2eAppl.class	Sample Java application
jdbc\DB2eJavaCLP.class	Command-line processor written in Java
lang\DB2eCLP\non-unicode\DB2eCLP.exe	Command-line processor executable
x86\ODBCInst.exe	Registers the DB2 Everyplace ODBC driver

2. **Optional:** Copy the development libraries to the mobile device. The DB2 Everyplace development library generates trace data in addition to the diagnostic data that release libraries generate. This data helps you troubleshoot problems as you develop and test DB2 Everyplace applications.

The development library is located in the directories that end in "Dev". For example, the development library for Windows mobile devices with x86 processors is located in the <DSYPATH>\Clients\win32\database\x86Dev directory. To install this library transfer the files from the Dev directory to the mobile device.

3. **Optional:** If you plan to use the DB2 Everyplace Sync Server, copy the DB2 Everyplace Sync Client files to the same directory that you used in the previous step.

The following table lists files that are used by the DB2 Everyplace Sync Client on the Windows platform. The DB2 Everyplace Sync Client files are in the <DSYPATH>\Clients\win32\sync\lang\non-unicode\ directory, *lang* is a language code, for example, en\_US.

Table 28. Windows DB2 Everyplace Sync Client files

File Name	Description
db2sync_console.exe	DB2 Sync interface
dsyagent.dll	IBM Remote Stored Procedure adapter
imsaconfig.dll	IBM Sync configuration adapter
imsadb2e.dll	IBM Sync DB2 Everyplace adapter
imsafile.dll	IBM Sync file adapter
isync4j.dll	IBM Sync Java interface
isync4j.jar	IBM Sync Java interface
isyncconf.dll	IBM Sync engine
isyncore.dll	IBM Sync engine
isyncstat.dll	DB2 Everyplace Sync Client statistics
isyncxpt.dll	IBM Transport library
wbxmllib.dll	IBM Sync WBXML library

4. **Optional:** Install your own DB2 Everyplace applications in the same directory that you used in the previous step.

The DB2 Everyplace Sync Client uses the code page Cp1252 as the default. To synchronize data of a different code page, include the config-isyn file in the directory where the application is run.

## Setting up the DB2 Everyplace Update Tool on the DB2 Everyplace Sync Server

The DB2 Everyplace Update Tool allows you to automatically upgrade the DB2 Everyplace Sync Client on your mobile device. This tool works on Palm OS, Symbian OS, and Windows CE mobile devices.

**Prerequisite:** Before you run the DB2 Everyplace Update Tool, you need to modify the DSYDeploy.properties file on your server. This properties file tells the server where to locate the updates that are being sent to a client device.

**Important:** You must have the DB2 Everyplace Synchronization Server Version 8.1 or later to use the Update Tool.

**To set up the DB2 Everyplace Update Tool:**

1. Open the DSYDeploy.properties file, which is located in the <DSYPATH>\Server\properties\com\ibm\mobileservices directory.
2. Locate the entry for the type of mobile device that you are updating. For example, Palm.M68.prc.syncserver=
3. Update the entry to point to the directory where the file is located on the server. For example, Palm.M68.prc.syncserver=c:\db2everyplace\Clients\PalmOS\Sync\upgrade\  
The next time that you synchronize your mobile device, DB2 Everyplace sends all the .prc files from this directory to the mobile device.

## Updating DB2 Everyplace Sync Client software using the DB2 Everyplace Update Tool

Before updating DB2 Everyplace Sync Client software using the DB2 Everyplace Update Tool, complete the following steps:

1. Verify that the DB2 Everyplace Update Tool is compatible with your mobile device. See the following Web page for a list of mobile devices that are supported by the DB2 Everyplace Update Tool: <http://www.ibm.com/software/data/db2/everyplace/requirements/index.html>
2. Set up the DB2 Everyplace Update Tool on the DB2 Everyplace Sync Server
3. Install the DB2 Everyplace Update Tool on a mobile device

**To run the update tool from your mobile device:**

1. Tap the **IBM Update** icon. The DB2 Everyplace Update Tool window opens.
2. Activate the menu bar and select **Settings**.
3. In the Settings window, fill in the **Server IP**, **Port #**, **User ID**, and **Password** fields. The information in these fields must be consistent with the settings in the DB2 Sync program.
4. Tap **OK**.
5. Tap the **Update** icon to begin the update process. The files are placed into the following locations:

**Symbian OS**

DLL files are placed in the C:\System\Libs directory

The sample application is placed in the C:\System\Apps\ISync directory

**Windows CE**

DLL files are placed in the \Windows directory

The sample application is placed in the \Windows\Start directory

If you want to change the locations to which these files are placed, use the **Advanced** panel. If the update completes successfully, the message "update succeeded" appears in the DB2 Everyplace Update Tool window.

6. Declare the target directory where DB2 Everyplace Sync Client stores configuration and data files. The following list shows the default directory for each platform:

**Symbian OS**

C:\System\Data\ISync



## Windows CE

The root directory (\)

7. Click OK to copy configuration and data files to the target directory. If you were previously using DB2 Everyplace Sync Client version 7, the Update Tool will copy data and configuration files to the new target directory.

**Note for Symbian Users:** When you update the DB2 Everyplace Sync Client by using the update tool, the Install/Remove utility on the Control Panel does not reflect the new version number of the program. If you want the utility to reflect the updated version, modify the DSYDeploy.properties file on your server so the update tool downloads only the download only the DB2Sync.sis and DB2e.sis files. Once these two files are received on the mobile device, you can manually install them and the proper versions will be reflected in the Install/Remove utility.

## Installing the DB2 Everyplace Update Tool on a mobile device by using a file subscription

**Prerequisite:** You must install the DB2 Everyplace Update Tool after you install DB2 Everyplace on a server and mobile device.

**Important:** The DB2 Everyplace Update Tool is available only on the following platforms:

### Palm OS

5.0 and 5.2.x

### Symbian OS 7

Sony Ericsson P800/P900 mobile devices only

### Windows CE

Windows Mobile 2003 only

**To install the update tool using a file subscription:**

1. Start the Mobile Devices Administration Center.
2. Right-click the **Subscriptions** folder on the object tree and select **Create** → **File Subscription** from the pop-up menu. The Create File Subscription notebook opens.
3. Perform the following steps on the Identification tab of the Create File Subscription window:
  - a. Specify a name, description, and encryption level for the file subscription.
  - b. Specify the name of the source file. The source file is the DB2 Everyplace Update Tool executable file that you are synchronizing to a mobile device.
  - c. Select the check box for each device type that you want to receive the subscription.
4. On the Subscription sets page of the Create File Subscription notebook, assign the file subscription to a subscription set.
5. Click **OK**.

**Important:** Before you close the Mobile Devices Administration Center, make sure that the correct groups and users are assigned to the subscription set that contains the new file subscription.

## Installing the DB2 Everyplace Update Tool manually on a mobile device

**Prerequisite:** You must install the DB2 Everyplace Update Tool after you install DB2 Everyplace on a server and mobile device.

**Important:** The DB2 Everyplace Update Tool is available only on the following platforms:

**Palm OS**

5.0 and 5.2.x

**Symbian OS 7**

Sony Ericsson P800/P900 mobile devices only

**Windows CE**

Windows Mobile 2003 only

To install the DB2 Everyplace Update Tool manually:

1. On your workstation, install and configure a connection software program that is compatible with your mobile device. In some cases, the mobile device already includes connection software.
2. Connect the mobile device to the workstation.
3. The connection software program on your mobile device includes an Install Tool. Use the Install Tool to download the DB2 Everyplace iUpgrade file to your mobile device. Download the following files from the <DSYPATH>\Clients directory:

**Palm OS**

\PalmOS\Sync\lang\upgrade\iUpgrade.prc

**Windows CE**

\WinCE\Sync\lang\ver\proc\upgrade\iUpgrade.exe

**Symbian OS**

\Symbian7\sync\lang\proc\upgrade\iUpgrade.app

\Symbian7\sync\lang\proc\upgrade\iUpgrade.rsc

where *proc* is the processor type, *lang* is a language, and *ver* is the Windows CE version number of your mobile device.

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## Configuring DB2 Everyplace

These topics explain how to configure DB2 Everyplace on a server and on mobile devices. It describes the processes for each of the DB2 Everyplace editions.

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### Configuring DB2 Everyplace Database Edition

DB2 Everyplace Database Edition cannot be configured on a server or workstation. However, you might need to configure DB2 Everyplace after you install it on a mobile device. See “Configuring DB2 Everyplace on mobile devices” on page 72 for information about configuring DB2 Everyplace Database Edition on specific mobile devices.

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### Configuring DB2 Everyplace Enterprise Edition

You can configure DB2 Everyplace Enterprise Edition in four ways: Basic, Distributed, Clustered, and Remote Administration. This section explains how to select and perform each type of configuration.

You can configure DB2 Everyplace by using either of the following methods:

#### Configuration wizard

A graphical configuration tool that can configure or unconfigure DB2 Everyplace on a server.

#### Command-line configuration tool

An ANT-based utility that can configure or unconfigure DB2 Everyplace on a server. It is recommended for advanced users.

On Linux and UNIX systems, the process of configuring DB2 Everyplace creates a DB2 Everyplace Sync Server instance, also called a DSY instance. You can run multiple instances of the DB2 Everyplace Sync Server on Linux and UNIX system.

You can configure DB2 Everyplace in the following ways:

**Basic** Use basic configuration when you want to use DB2 Everyplace on a single physical system.

#### Distributed

Use distributed configuration to run the DB2 Everyplace Sync Server control database and the DB2 Everyplace Sync Server as two separate instances. In this configuration, the instance that runs the DB2 Everyplace Sync Server is called the Distributed Server and the instance that runs the control database is called the Distributed Database. To administer the DB2 Everyplace Sync Server, use the Mobile Devices Administration Center on the instance that is configured as the Distributed Server.

#### Clustered

Use clustered configuration when you want to run multiple DB2 Everyplace instances in a WebSphere® Application Server clustered environment. Clustering provides additional features such as dynamic load balancing, scalability, and redundancy. This option requires WebSphere Application Server 6.

#### Remote administration

Use remote administration when you want to install DB2 Everyplace on a system for the purpose of remotely administering another system running the DB2 Everyplace Sync Server. This option configures only the DB2 Everyplace Mobile Devices Administration Center and is supported on Windows and Linux systems only.

## DB2 Everyplace Enterprise Edition basic configuration

**Prerequisite:** Install DB2 Everyplace files on the server before you configure DB2 Everyplace.

**To perform a basic configuration by using the configuration wizard:**

1. Log in as the DB2 administrator (on Windows systems) or as the root user (Linux and UNIX systems).
2. Start the DB2 Everyplace Configuration wizard.

### Windows systems

Run the DSYconfig.exe file, which is installed by default in the <DSYPATH>\config\bin directory.

You can also use a Start menu shortcut: **Start** → **Programs** → **IBM DB2 Everyplace Enterprise** → **Setup Tools** → **DB2 Everyplace Configuration Wizard**.

### Linux and UNIX systems

As the root user, run the DSYconfig.bin file, which is installed by default in the \$DSYINSTDIR/config/bin directory.

3. Click **Next** to start the configuration process.
  - a. Select **Configure** (on a Windows computer) or **Create** (on a Linux or UNIX computer) and click **Next**.
  - b. Select **Basic configuration**.
  - c. Set the user ID and password for the DB2 Everyplace Sync Server.

### Windows systems

Specify the user ID and password to access the DB2 database on which the DB2 Everyplace Sync Server will store data.

### Linux systems

Specify the user ID, password, and locale for the owner of the new DB2 Everyplace Sync Server instance.

- d. Specify the full classpath to external Java classes and JDBC drivers that you might need. If you do not have any, leave this field blank.
- e. Configure the embedded Application Server.

### ServerName

Specify a name for the embedded Application Server

### Server IP

Enter the IP address of the embedded Application Server. In most cases, this is the IP address of the system that is running the new instance.

### Server port

Specify the port number of the embedded Application Server.

### SSL port

the SSL port number for the embedded Application Server.

- f. Select whether the configuration wizard should start the service (Windows systems) or daemon (Linux and UNIX systems) at the end of the configuration process.
- g. Review the information that the configuration wizard shows in the pre-configuration summary page. If you need to make changes, click **Back**. Otherwise, click **Next** to create and configure the instance.

## Using the command-line tool to configure a basic environment

Follow these steps to configure DB2 Everyplace for a basic environment by using the command-line configuration tool. On Linux and UNIX systems, this will create a new DB2 Everyplace Sync Server instance with a basic configuration.

**Prerequisite:** Before you perform basic configuration, install the DB2 Everyplace files.

1. Locate the `dsyconfig.properties` file. The location of the file depends on your platform.

**Windows systems**

`<DSYPATH>\config`

**Linux and UNIX systems**

`$DSYINSTDIR/config`

2. Edit the `dsyconfig.properties` file and change the following required properties:

**createControldb**

Set this value to true.

**dsyctldbUser**

Enter the user ID of the database administrator

**dsyctldbPassword**

Enter the database administrator password

**virtualHost**

Enter the virtual host where the DB2 Everyplace Application server will be installed. The default value is `default_host`.

**wasNode**

Enter the name of the WebSphere Application Server node where the DB2 Everyplace application server will be installed. The default value is `DefaultNode`.

**ip**

Enter the IP address of the virtual host where DB2 Everyplace Application Server will be installed. You can specify `127.0.0.1`, or the actual IP address of the host, or the fully qualified domain name.

**serverName**

Enter the name of the DB2 Everyplace Application Server. The default value is `IBMDB2eServer`.

**jdbcDriverClasspath**

Enter the class path for non-DB2 JDBC drivers that might be needed by the DB2 Everyplace Sync Server and the Mobile Devices Administration Center. If you do not have any, leave this blank.

**serverPort**

Enter the HTTP port for the application server. Specify an unused port.

**sslPort**

Enter the SSL port for the application server. Specify an unused port.

**bootPort**

Enter the bootstrap port for the application server. Specify an unused port.

**soapPort**

Enter the SOAP port for the application server. Specify an unused port.

**instance**

Enter the name of the DB2 Everyplace Sync Server instance. This must be an existing DB2 Version 9.1 instance. This property is only required for Linux and UNIX systems.

**instanceLang**

Enter the locale for the DB2 Everyplace Sync Server instance. The DB2 Everyplace Sync Server control database, DB2 Everyplace sample databases, and Mobile Devices Administration Center messages will be created in the locale that you specify. You must specify a locale that is supported by DB2 Everyplace.

**winAdminUser**

This option is for Windows systems only. Enter the user name of the system administrator.

### **winAdminPassword**

This option is for Windows systems only. Enter the password of the system administrator.

3. Issue the following command to start the configuration tool:

```
DSYconfig basic-config
```

The configuration tool stores log information about the configuration process in the following directories:

#### **Windows systems**

```
<DSYPATH>\log
```

#### **Linux and UNIX systems**

```
$DSYINSTDIR/log
```

## **DB2 Everyplace clustered configuration**

Follow the steps in this topic to create a WebSphere Application Server Network Deployment cluster, configure each node for DB2 Everyplace, and activate the cluster.

1. Prepare each node in the cluster according to the steps in “Preparing nodes in a DB2 Everyplace clustered configuration” on page 53.
2. Configure the DB2 Everyplace installation on each node.
  - If the database server is NOT hosted by a node in the cluster:
    - a. Configure the DB2 Everyplace installation on the database server with the distributed database configuration.

#### **Command line configuration:**

Configure the DB2 Everyplace installation according to the instructions in “Using the command-line tool to configure a distributed database” on page 62.

#### **Configuration Wizard configuration:**

Configure the DB2 Everyplace installation according to the instructions in “Using the configuration wizard to configure a distributed database” on page 60.

- b. Configure the other nodes in the cluster.

#### **Command line configuration:**

Configure the DB2 Everyplace installation according to the instructions in “Using the command-line tool to configure a clustered environment with a remote control database and message store” on page 56.

#### **Configuration Wizard configuration:**

Select the **Clustered Configuration** option to perform a clustered configuration. When you reach the **Select the DB2 Everyplace Sync Server database action** panel of the configuration wizard, select **No** to catalog remote control databases.

- If the database server is hosted by a node in the cluster:
  - a. Configure the DB2 Everyplace installation on the database server with the clustered database configuration.

#### **Command line configuration:**

Configure the DB2 Everyplace installation according to the instructions in “Using the command-line tool to configure a clustered environment with a local control database and message store” on page 55.

#### **Configuration Wizard configuration:**

Select the **Clustered Configuration** option to perform a clustered configuration. When you reach the **Select the DB2 Everyplace Sync Server database action** panel of the configuration wizard, select **Yes**.

- b. Configure the other nodes in the cluster.

**Command line configuration:**

Configure the DB2 Everyplace installation according to the instructions in “Using the command-line tool to configure a clustered environment with a remote control database and message store” on page 56.

**Configuration Wizard configuration:**

Select the **Clustered Configuration** option to perform a clustered configuration. When you reach the **Select the DB2 Everyplace Sync Server database action** panel of the configuration wizard, select **No** to catalog remote control databases.

3. Catalog the source and mirror databases that are used for DB2 Everyplace subscriptions on each node in the cluster. Catalog these databases with the same name.
4. Ensure that all files that are used by DB2 Everyplace file subscriptions are shared across all nodes in the cluster.
5. Ensure that all databases that are used by DB2 Everyplace JDBC and DataPropagator subscriptions are cataloged in the database directory of each node.
6. Configure the WebSphere Application Server Network Deployment installation on each node according to the steps in “Configuring a WebSphere Application Server cluster for the DB2 Everyplace Sync Server” on page 57.
7. Activate the cluster according to the steps in “Activating the DB2 Everyplace cluster” on page 59.
8. **Optional:** Test the cluster according to the steps in “Testing the DB2 Everyplace Sync Server on a WebSphere Application Server cluster” on page 59.

**Preparing nodes in a DB2 Everyplace clustered configuration**

Follow these steps to prepare the nodes in your cluster for a DB2 Everyplace clustered environment.

**Prerequisites:** Before you can configure DB2 Everyplace for a WebSphere Application Server 6 clustered application server environment, you must complete the following steps.

**Important:** If security is enabled in WebSphere Application Server version 6, provide a WebSphere Application Server security ID user name and password as parameters to each WebSphere command.

1. Log in to system:
  - Windows: Log in as the administrator.
  - Linux and UNIX: Log in as the root user.
2. Make sure all nodes have static IP addresses and host names that can be connected to each other.
3. Install DB2 Version 9.1 on the database server.
4. Install the DB2 client on all the nodes. Create the DB2 instance with the same user ID and group ID as on the database server.
5. Install WebSphere Application Server version 6.0.2.5 or newer on the ND node and create a Network Deployment profile. For more information, see the WebSphere Application Server Network Deployment documentation.
6. Install IBM HTTP Server (IHS) and Web Server Plug-ins.
7. Install WebSphere Application Server version 6.0.2.5 or newer on the other application server nodes and create Application Server profiles. For more information, see the WebSphere Application Server Network Deployment documentation.
8. Make sure the WebSphere installations on each node are at the same level as the Deployment Manager. The WebSphere Application Server Network Deployment documentation describes how to setup the node configuration. Start the deployment manager before configuring the cluster.
9. Federate the WebSphere Application Server application server nodes to ND node. For more information, see the WebSphere Application Server Network Deployment documentation.
10. Install DB2 Everyplace on the ND node, all application nodes, and the database node. Do not configure DB2 Everyplace at this step.

## Configuring DB2 Everyplace for a clustered configuration by using the DB2 Everyplace Configuration Wizard

Put your short description here; used for first paragraph and abstract.

**Restriction:** If you want to use file subscriptions in a clustered environment, the directory that holds the subscribed files must be shared across all nodes. The directory must also have the same path in each node.

### To perform a clustered configuration:

1. Start the DB2 Everyplace Configuration wizard.

#### Windows systems

Run the DSYconfig.exe file, which is installed by default in the <DSYPATH>\config\bin directory.

You can also use a Start menu shortcut: **Start** → **Programs** → **IBM DB2 Everyplace Enterprise** → **Setup Tools** → **DB2 Everyplace Configuration Wizard**.

#### Linux and UNIX systems

As the root user, run the DSYconfig.bin file, which is installed by default in the \$DSYINSTDIR/config/bin directory.

2. Click **Next** to start the configuration process.
  - a. Select **Configure** (on a Windows computer) or **Create** (on a Linux or UNIX computer) and click **Next**.
  - b. Select **Clustered configuration**.
  - c. Specify the user name, and password for the DB2 Everyplace Sync Server instance owner. On Linux and UNIX systems, you must also specify the user locale.
  - d. Specify whether this instance will have the shared DB2 Everyplace Sync Server control database and message store.

**Yes** Other systems in the cluster will access this system in order to use the shared DB2 Everyplace Sync Server control database and message store.

**No** This system will access the shared DB2 Everyplace Sync Server control database and message store through another system in the cluster.

- e. **If you answered No to the previous step:** Provide the following information:

#### Windows systems

- The host name of the remote database
- TCP/IP connection port number to the remote database
- User ID and password for the remote database

#### Linux and UNIX systems

- The host name of the remote database
- TCP/IP connection port number to the remote database
- User ID and password for the remote database
- Locale
- Instance name

- f. Specify the full classpath to external Java classes and JDBC drivers that you might need. If you do not have any, leave this field blank.
- g. Review the information that the configuration wizard shows in the pre-configuration summary page. If you need to make changes, click **Back**. Otherwise, click **Next** to create and configure the instance.



## Using the command-line tool to configure a clustered environment with a local control database and message store

Follow these steps to configure a DB2 Everyplace cluster with a control database and message store by using the command-line configuration tool.

**Restriction:** If you want to use file subscriptions in a clustered environment, the directory that holds the subscribed files must be shared across all nodes. The directory must also have the same path in each node.

1. Locate the `dsyconfig.properties` file. The location of the file depends on your platform.

**Windows systems**

`<DSYPATH>\config`

**Linux and UNIX systems**

`$DSYINSTDIR/config`

2. Edit the following required properties:

**createControlDb**

Set this value to `true`.

**dsyctldbUser**

The user ID of the database administrator

**dsyctldbPassword**

The database administrator password

**clusterName**

The name of the DB2 Everyplace cluster that you want to join or create. The default value of this parameter is `IBMDB2eCluster`. This name cannot contain spaces.

**instance**

The name of the DB2 Everyplace Sync Server instance. This must be an existing DB2 Version 9.1 instance. This property is only required for Linux and UNIX systems.

**instanceLang**

The locale to be used for the DB2 Everyplace Sync Server instance. The DB2 Everyplace Sync Server control database, DB2 Everyplace sample databases, and Mobile Devices Administration Center messages will be created in the locale that you specify. You must specify a locale that is supported by DB2 Everyplace. This property is only required for Linux and UNIX systems.

**winAdminUser**

This option is for Windows systems only. Enter the user name of the system administrator.

**winAdminPassword**

This option is for Windows systems only. Enter the password of the system administrator.

3. Issue the following command to start the configuration tool:

```
DSYconfig cluster-config
```

The configuration tool stores log information about the configuration process in the following directories:

**Windows systems**

`<DSYPATH>\log`

**Linux and UNIX systems**

`$DSYINSTDIR/log`

## Using the command-line tool to configure a clustered environment with a remote control database and message store

Follow these steps to configure a DB2 Everyplace cluster with a remote control database and message store by using the command-line configuration tool.

**Restriction:** If you want to use file subscriptions in a clustered environment, the directory that holds the subscribed files must be shared across all nodes. The directory must also have the same path in each node.

1. Locate the `dsyconfig.properties` file. The location of the file depends on your platform.

**Windows systems**

<DSYPATH>\config

**Linux and UNIX systems**

\$DSYINSTDIR/config

2. Edit the following required properties:

**createControlDb**

Set this value to false.

**dsyctldbUser**

The user ID of the database administrator

**dsyctldbPassword**

The database administrator password

**remoteHost**

The fully qualified host name of the remote system which hosts the DB2 Everyplace Sync Server control database.

**remoteConnectionPort**

The TCP/IP connection port for the remote DB2 instance that hosts the DB2 Everyplace Sync Server control database.

**clusterName**

The name of the DB2 Everyplace cluster that you want to join or create. The default value of this parameter is `IBMDB2eCluster`. This name cannot contain spaces.

**instance**

The name of the DB2 Everyplace Sync Server instance. This must be an existing DB2 Version 9.1 instance. This property is only required for Linux and UNIX systems.

**instanceLang**

The locale to be used for the DB2 Everyplace Sync Server instance. The DB2 Everyplace Sync Server control database, DB2 Everyplace sample databases, and Mobile Devices Administration Center messages will be created in the locale that you specify. You must specify a locale that is supported by DB2 Everyplace. This property is only required for Linux and UNIX systems.

**winAdminUser**

This option is for Windows systems only. Enter the user name of the system administrator.

**winAdminPassword**

This option is for Windows systems only. Enter the password of the system administrator.

3. Issue the following command to start the configuration tool:

```
DSYconfig cluster-config
```

The configuration tool stores log information about the configuration process in the following directories:

### Windows systems

<DSYPATH>\log

### Linux and UNIX systems

\$DSYINSTDIR/log

## Configuring a WebSphere Application Server cluster for the DB2 Everyplace Sync Server

Follow these steps to configure a WebSphere Application Server cluster for the DB2 Everyplace Sync Server.

1. Create the first application server. Before running the jacl file, make sure the Deployment Manager on the ND node and the node agents on each application node are running.

- **Windows**

- a. Log in as the administrator.
- b. Navigate to the <DSYINSTDIR>\config\work\was directory.
- c. Run wsadmin.bat.

```
<WAS_HOME>\bin\wsadmin.bat -profileName <profile_name> -f dsyInstallDB2eWAS6.jacl  
DSYINSTDIR DSYSQLIBINSTDIR WAS_virtual_host WAS_node_name WAS_cell_name IP_address  
server_name application_name context_root WebServer_name [user][group]
```

- **Linux and UNIX**

- a. Log in as the root user.
- b. Navigate to the \$DSYINSTDIR/config/work/was directory.
- c. Run wsadmin.sh.

```
<WAS_HOME>/bin/wsadmin.sh -profileName <profile_name> -f dsyInstallDB2eWAS6.jacl  
DSYINSTDIR DSYSQLIBINSTDIR WAS_virtual_host WAS_node_name WAS_cell_name IP_address  
server_name application_name context_root WebServer_name user group
```

where

#### **WAS\_node\_name**

The existing WebSphere node name for DB2 Everyplace installation. This is the DNS host name of your machine, without the domain name.

**Example:** For mentor.mycompany.com, use mentor.

#### **WAS\_virtual\_host**

The existing WebSphere virtual host name.

**Example:** default\_host

#### **server\_name**

The DB2 Everyplace server name.

**Example:** DB2e1

#### **IP\_address**

A valid IP address or fully qualified DNS host name for the server.

#### **DSYINSTDIR**

The DB2 Everyplace instance installation directory. Directory names cannot have spaces. When necessary, use the short name.

**Example:** Change C:\Program Files\IBM\SQLLIB to C:\Progra~1\IBM\SQLLIB.

#### **DSYSQLIBINSTDIR**

The DB2 UDB installation directory. Directory names cannot have spaces. When necessary, use the short name.

**Example:** Change C:\Program Files\IBM\SQLLIB to C:\Progra~1\IBM\SQLLIB.

**application\_name**

The name of the DB2 Everyplace Enterprise Application. Set this parameter to DB2EveryplaceEnterprise9.1.

**context\_root**

The context root for the DB2 Everyplace Enterprise Application. Set this to db2e.

**WAS\_cell\_name**

The existing WebSphere cell name for DB2 Everyplace installation.

**user** The name of the DB2 Everyplace Sync Server instance. This parameter is optional on Windows systems.

**group** The name of the primary group for the DB2 Everyplace instance. This parameter is optional on Windows systems.

2. Create a WebSphere Application Server cluster for DB2 Everyplace on the ND node, for example DB2ECluster. When adding the cluster member, convert the first application server to the cluster according to the WebSphere Application Server Network Deployment documentation.
3. Add another cluster member on the other nodes. Create a new application server name, for example, DB2eServer.
4. Synchronize the nodes in the DB2 Everyplace cluster according to the WebSphere Application Server Network Deployment documentation.
5. Change the process execution user ID and group.
  - For the DB2 Everyplace application server:
    - a. On the ND node, open the WebSphere Application Server administration console: `http://<IP>:9060/ibm/console`.
    - b. Ensure that the Deploy Manager is running. Click **Servers** → **Application servers** panel. You will see the DB2 Everyplace application server.
    - c. Open the DB2 Everyplace application server.
    - d. Expand the **Java and Process Management** section.
    - e. Click **Process Definition**.
    - f. Click **Java Virtual Machine** on the Process Definition page.
    - g. Check **Generic JVM arguments**. Make sure `Server.port`, `Server.Name`, `Trace Path` and `Server IP` contain the correct settings. If not, modify them. The `Server.Name` must be different between each cluster members.
    - h. Return to the **Process Definition** page and click **Process Execution**.
    - i. In the **Run as user** field, enter the DB2 instance user ID created for DB2 and DB2 Everyplace Sync Server.
    - j. In the **Run as group** field, enter the DB2 instance group ID to which the DB2 instance user ID belongs.
    - k. In the **UMASK** field, enter `022`, and click **OK**.
    - l. In the Administrative Console task bar, click **Save**.
    - m. On the **Save** page, select **SynchronizechangeswithNode** and click **Save**.
    - n. In the left pane of the Administrative Console, expand **Environment** → **WebSphere Variables**. Select a node and one of its corresponding server (cluster member). Press **Apply**. Set the `SERVER_LOG_ROOT` value to be the same as that of the `Trace Path` in step g.
 

**Example:** `/home/db2inst1/db2everyplace91/Server/logs/DB2e1` where `DB2e1` is the name of the server you select.Repeat this step for every node and all of its corresponding servers.
    - o. In the Administrative Console task bar, click **Save**.
    - p. On the **Save** page, select **SynchronizechangeswithNode** and click **Save**.
  - For node agents:
    - a. In the Navigation area, expand **System Administration** and click **Node Agents**.

- b. Select the node agent for the node on which the DB2 Everyplace sync server application is running.
  - c. In the Server Infrastructure section, expand Java and Process Management.
  - d. Click **Process Definition**.
  - e. In the Additional Properties section, click **Process Execution**.
  - f. In the **Run as user** field, enter the DB2 instance user ID created for DB2 and DB2 Everyplace sync server.
  - g. In the **UMASK** field, enter 022, and click **OK**.
  - h. Save the setting.
6. Stop the Node Agents on each node using the root (Linux and UNIX) or administrator (Windows). Ensure that no application server is running before stopping the Node Agent.
  7. **For Linux and UNIX only:** Change the DB2 Everyplace WebSphere Application Server Owner profile and Group profile to the DB2 instance user ID and group ID on each application node. For example, issue the following the command in a command line:
 

```
>cd <WAS_HOME>/profiles
>chown -R db2inst1:db2grp1 DB2E
```

## Activating the DB2 Everyplace cluster

Once you have configured the WebSphere Application Server Network Deployment installation on each node in the cluster, you can activate the cluster.

Perform the following steps on each node in the cluster.

1. Log in to the node.

### Windows systems

Log in as the system administrator.

### Linux and Unix systems:

Log in as the DB2 instance ID.

2. Start the Node Agent.
3. Open the Network Deployment administration console.
4. Regenerate the WebSphere plug-in configuration file according to the WebSphere Application Server Network Deployment documentation.
5. Start IHS.
6. Start the DB2 Everyplace cluster.
  - a. In the Network Deployment administration console, click **Servers** → **Clusters** → **<DB2eCluster>**.
  - b. Select the DB2eCluster check box, and then click **Start**.

## Testing the DB2 Everyplace Sync Server on a WebSphere Application Server cluster

Follow these steps to test the DB2 Everyplace Sync Server on a WebSphere Application Server cluster.

1. Open a Web browser and check whether the following URL works: `http://<ND_IP>/db2e/db2erdb .`

**Important:** The cluster uses port 80 to synchronize mobile devices.

2. On the database server node, open a DB2 command window and navigate to the SAMPLE directory. The directory name depends on the platform that you are using.

### Windows

`<DSYPATH>\Server\sample\`

### Linux and UNIX

`$DSYINSTDIR/Server/sample/`

3. Create a sample database by issuing the following command:

```
db2 -vtf Vnurse.dd1
```

- Catalog the sample databases on each node in the cluster that is running DB2 Everyplace. The sample databases must be cataloged with the same name on each node. For the VNurse sample, catalog the databases VNURSE and M\_VN2.
- On one of the server nodes in the cluster, navigate to the config directory. The directory name depends on the platform that you are using.

#### Windows

```
<DSYPATH>\config\
```

#### Linux and UNIX

```
$DSYINSTDIR/config/
```

- Run the create-sample command.

#### Windows

Issue the following command:

```
dsyconfig.bat create-sample
```

#### Linux and UNIX

a. Log in as the DB2 Everyplace instance.

b. Issue the following command:

```
./dsyconfig.sh create-sample
```

- Install DB2 Everyplace Sync Client on a mobile device.
- Configure the mobile device to synchronize with the DB2 Everyplace cluster HTTP server.
- Synchronize the mobile device.

## DB2 Everyplace distributed configuration

A distributed configuration sets up the DB2 Everyplace Sync Server control database and the DB2 Everyplace Sync Server that has been installed on two separate servers. There are two parts to configuring a distributed environment:

- Configuring the DB2 Everyplace Sync Server control database.
- Configuring the DB2 Everyplace Sync Server.

You must complete the database configuration successfully before you begin the server configuration.

### Using the configuration wizard to configure a distributed database

Configuring DB2 Everyplace for a distributed environment is a two-step process. This topic covers the first step, configuring the DB2 Everyplace Sync Server control database.

**Prerequisite:** Install DB2 Everyplace files on the servers before you configure DB2 Everyplace.

#### To configure a distributed database by using the configuration wizard:

- Log in as the DB2 administrator (on Windows systems) or as the root user (Linux and UNIX systems).
- Start the DB2 Everyplace Configuration wizard.

#### Windows

Run the DSYconfig.exe file, which is installed by default in the <DSYPATH>\config\bin directory.

You can also use a Start menu shortcut: **Start** → **Programs** → **IBM DB2 Everyplace Enterprise** → **Setup Tools** → **DB2 Everyplace Configuration Wizard**.

#### Linux and UNIX

Run the DSYconfig.bin file, which is installed by default in the \$DSYINSTDIR/config/bin directory.

3. Click **Next** to start the configuration process.
  - a. Select **Configure** (on Windows systems) or **Create** (on Linux or UNIX systems) and click **Next**.
  - b. Select **Distributed configuration**.
  - c. Select **Database configuration**.
  - d. Specify the user name, and password for the DB2 Everyplace Sync Server instance owner. On Linux and UNIX systems, you must also specify the user locale.

**Important:** The control database instance must have the same locale as the DB2 Everyplace Sync Server instance.

- e. Review the information that the configuration wizard shows in the pre-configuration summary page. If you need to make changes, click **Back**. Otherwise, click **Next** to create and configure the instance.

**Important:** To complete the distributed configuration, you must configure the server component.

### Using the configuration wizard to configure a distributed server

Configuring DB2 Everyplace for a distributed environment is a two-step process. This topic covers the second step, configuring the DB2 Everyplace Sync Server. This sets up the DB2 Everyplace Mobile Devices Administration Center.

#### Prerequisites:

- Install DB2 Everyplace files on the server before you configure DB2 Everyplace.
- Configure the DB2 Everyplace Sync Server control database before you configure the distributed server.
- The control database and the distributed server must use the same locale.
- The DB2 Everyplace Sync Server instance that you configure will use databases on another DB2 Everyplace instance. That other instance must be already installed and configured.

#### To configure a distributed server by using the configuration wizard:

1. Log in as the DB2 administrator (on Windows systems) or as the root user (Linux and UNIX systems).
2. Start the DB2 Everyplace Configuration wizard.

##### Windows systems

Run the DSYconfig.exe file, installed by default in the <DSYPATH>\config\bin directory.

You can also use a Start menu shortcut: **Start** → **Programs** → **IBM DB2 Everyplace Enterprise** → **Setup Tools** → **DB2 Everyplace Configuration Wizard**.

##### Linux and UNIX

Run the DSYconfig.bin file, which is installed by default in the \$DSYINSTDIR/config/bin directory.

3. Click **Next** to start the configuration process.
  - a. Select **Configure** (on a Windows system) or **Create** (on a Linux or UNIX system) and click **Next**.
  - b. Select **Distributed configuration**.
  - c. Select **Server configuration**.
  - d. **For Linux and UNIX systems only:** Specify the user name for the DB2 Everyplace instance and the user locale.
  - e. Catalog the remote control database into the local database directory. Enter the following information into the fields:

##### Hostname

The hostname of the distributed DB2 Everyplace Sync Server control database.

##### TCP/IP Connection port for the DB2 Version 9.1 instance

The port number of the distributed DB2 Everyplace Sync Server control database.

**UserID**

The user id of the distributed DB2 Everyplace Sync Server control database.

**Password**

The password of the distributed DB2 Everyplace Sync Server control database.

- f. Specify the full classpath to external Java classes and JDBC drivers that you might need. If you do not have any, leave this field blank.
- g. Configure the embedded Application Server.

**ServerName**

The name of the embedded Application Server

**Server IP**

The IP address of the embedded Application Server.

**CAUTION:**

**If you want to use the Mobile Devices Administration Center, do NOT enter the loopback address (127.0.0.1) in this field. Instead, use the external IP address of the system that is running the embedded Application Server.**

**Server port**

The port number of the embedded Application Server

**SSL port**

The SSL port number for the embedded Application Server

- h. Select whether the configuration wizard should start the service (Windows systems) or daemon (Linux and UNIX systems) at the end of the configuration process. On Windows systems, the configuration wizard uses the administrator user ID and password to start the DB2 Everyplace Sync Server service.
- i. Review the information that the configuration wizard shows in the pre-configuration summary page. If you need to make changes, click **Back**. Otherwise, click **Next** to create and configure the instance.

## Using the command-line tool to configure a distributed database

Follow these steps to configure a DB2 Everyplace distributed database by using the command-line configuration tool.

1. Locate the dsyconfig.properties file. The location of the file depends on your platform.

**Windows systems**

<DSYPATH>\config

**Linux and UNIX systems**

\$DSYINSTDIR/config

2. Edit the following required properties:

**createControldb**

Set this value to true.

**dsyctldbUser**

Enter the user ID of the database administrator.

**dsyctldbPassword**

Enter the database administrator password

**instance**

Enter the name of the DB2 Everyplace Sync Server instance. This must be an existing DB2 Version 9.1 instance. This property is only required for Linux and UNIX systems.

**instanceLang**

Enter the locale to be used for the DB2 Everyplace Sync Server instance. The DB2 Everyplace Sync Server control database, DB2 Everyplace sample databases, and Mobile Devices



Administration Center messages will be created in the locale that you specify. You must specify a locale that is supported by DB2 Everyplace. This property is only required for Linux and UNIX systems.

3. Issue the following command to start the configuration tool:

```
DSYconfig distributed-database-config
```

The configuration tool stores log information about the configuration process in the following directories:

**Windows systems**

```
<DSYPATH>\log
```

**Linux and UNIX systems**

```
$DSYINSTDIR/log
```

## Using the command-line tool to configure a distributed server

Follow these steps to configure a DB2 Everyplace distributed server by using the command-line configuration tool.

1. Locate the dsyconfig.properties file. The location of the file depends on your platform.

**Windows systems**

```
<DSYPATH>\config
```

**Linux and UNIX systems**

```
$DSYINSTDIR/config
```

2. Edit the following required properties:

**createControldb**

Set this value to false.

**dsyctldbUser**

Enter the user ID of the database administrator for the remote database.

**dsyctldbPassword**

Enter the database administrator password

**remoteHost**

Enter the fully qualified host name of the remote system which hosts the DB2 Everyplace Sync Server control database.

**remoteConnectionPort**

Enter the TCP/IP connection port for the remote DB2 instance that hosts the DB2 Everyplace Sync Server control database.

**virtualHost**

Enter the virtual host where the DB2 Everyplace Application server will be installed. The default value is default\_host.

**wasNode**

Enter the Name of the WebSphere Application Server node where the DB2 Everyplace application server will be installed. The default value is DefaultNode.

**ip**

Enter the IP address of the virtual host where DB2 Everyplace Application Server will be installed. You can specify 127.0.0.1, or the actual IP address of the host, or the fully qualified domain name.

**serverName**

Enter the name of the DB2 Everyplace Application Server. The default value is IBMDB2eServer.

**jdbcDriverClasspath**

Enter the class path for non-DB2 JDBC drivers that might be needed by the DB2 Everyplace Sync Server and the Mobile Devices Administration Center

**serverPort**

Enter the HTTP port for the application server. Specify an unused port.

**sslPort**

Enter the SSL port for the application server. Specify an unused port.

**bootPort**

Enter the bootstrap port for the application server. Specify an unused port.

**soapPort**

Enter the SOAP port for the application server. Specify an unused port.

**instance**

Enter the name of the DB2 Everyplace Sync Server instance. This must be an existing DB2 Version 9.1 instance. This property is only required for Linux and UNIX systems.

**instanceLang**

Enter the locale to be used for the DB2 Everyplace Sync Server instance. The DB2 Everyplace Sync Server control database, DB2 Everyplace sample databases, and Mobile Devices Administration Center messages will be created in the locale that you specify. You must specify a locale that is supported by DB2 Everyplace. This property is only required for Linux and UNIX systems.

**winAdminUser**

This option is for Windows systems only. Enter the user name of the system administrator.

**winAdminPassword**

This option is for Windows systems only. Enter the password of the system administrator.

3. Issue the following command to start the configuration tool:

```
DSYconfig distributed-server-config
```

The configuration tool stores log information about the configuration process in the following directories:

**Windows systems**

```
<DSYPATH>\log
```

**Linux and UNIX systems**

```
$DSYINSTDIR/log
```

## Troubleshooting the configuration process

If the Configuration wizard or the command-line configuration tool fails to catalog the remote control database in the local database catalog, make sure you have specified correct values for the following properties.

1. Make sure that you have provided the fully qualified hostname in the remote control database hostname field.
2. Make sure that you are using the correct TCP/IP connection port for the remote control database. You can use the DB2 Control Center to display the configuration of the DB2 instance. You can also verify the port by looking in the services file for the remote DB2 instance. The location of the services file depends on the platform that you are running:

**Windows systems**

```
%SystemRoot%\system32\drivers\etc\services
```

**Linux and UNIX systems**

```
/etc/services
```

3. Make sure that you have provided a valid user name to connect to the remote control database.
4. Make sure that the password for the user name is correct.

## DB2 Everyplace remote administration configuration

The remote administration configuration enables you to run the Mobile Devices Administration Center on a local machine to administer a remote DB2 Everyplace Sync Server. This is only supported on Windows and Linux systems.

### Prerequisites:

- Install DB2 Everyplace files on the server before you configure DB2 Everyplace.
- Configure the remote DB2 Everyplace Sync Server using the basic configuration before performing remote administration configuration.
- The local and remote computers must use the same locale.
- Catalog all source and mirror databases that are used by the DB2 Everyplace Sync Server.
- Make sure that the DB2 Everyplace Sync Server is using a real IP address. You cannot use 127.0.0.1. If you use 127.0.0.1, you cannot edit subscriptions.

### To configure DB2 Everyplace for remote administration by using the configuration wizard:

1. Log in as the DB2 administrator (on Windows systems) or as the root user (on Linux systems).
2. Start the DB2 Everyplace Configuration wizard.

#### Windows

Run the DSYconfig.exe file, installed by default in the <DSYPATH>\config\bin directory.

You can also use a Start menu shortcut: **Start** → **Programs** → **IBM DB2 Everyplace Enterprise** → **Setup Tools** → **DB2 Everyplace Configuration Wizard**.

**Linux** As the root user, run the DSYconfig.bin file, which is installed by default in the \$DSYINSTDIR/config/bin directory.

3. Click **Next** to start the configuration process.
  - a. Select **Configure** (on Windows systems) or **Create** (on Linux or UNIX systems).
  - b. Select **Remote administration**.
  - c. On Linux systems, specify the user name and locale of the DB2 Everyplace Sync Server instance that you want to configure.
  - d. Catalog the remote control database into the local database directory. Enter the following information into the fields:

#### Hostname

The hostname of the distributed DB2 Everyplace Sync Server control database.

#### TCP/IP Connection port for the DB2 Version 9.1 instance

The port number of the remote DB2 Everyplace Sync Server control database.

#### UserID

The user id for the remote DB2 Everyplace Sync Server control database.

#### Password

The password for the remote DB2 Everyplace Sync Server control database.

- e. Specify the full classpath to external Java classes and JDBC drivers that you might need. If you do not have any, leave this field blank.
- f. Review the information that the configuration wizard shows in the pre-configuration summary page. If you need to make changes, click **Back**. Otherwise, click **Next** to create and configure the instance.

## Using the command-line tool to configure DB2 Everyplace for remote administration

Follow these steps to configure DB2 Everyplace for remote administration by using the command-line configuration tool.

1. Locate the dsyconfig.properties file. The location of the file depends on your platform.

**Windows systems**

<DSYPATH>\config

**Linux and UNIX systems**

\$DSYINSTDIR/config

2. Edit the following required properties:

**createControldb**

Set this value to false.

**dsyctldbUser**

The user ID of the database administrator for the remote database

**dsyctldbPassword**

The database administrator password

**remoteHost**

The fully qualified host name of the remote system which hosts the DB2 Everyplace Sync Server control database.

**remoteConnectionPort**

The TCP/IP connection port for the remote DB2 instance that hosts the DB2 Everyplace Sync Server control database.

**jdbcDriverClasspath**

The class path for non-DB2 JDBC drivers that might be needed by the DB2 Everyplace Sync Server and the Mobile Devices Administration Center

**instance**

The name of the DB2 Everyplace Sync Server instance. This must be an existing DB2 Version 9.1 instance. This property is only required for Linux systems.

**instanceLang**

The locale to be used for the DB2 Everyplace Sync Server instance. The DB2 Everyplace Sync Server control database, DB2 Everyplace sample databases, and Mobile Devices Administration Center messages will be created in the locale that you specify. You must specify a locale that is supported by DB2 Everyplace. This property is only required for Linux and UNIX systems.

**winAdminUser**

This option is for Windows systems only. Enter the user name of the system administrator.

**winAdminPassword**

This option is for Windows systems only. Enter the password of the system administrator.

3. Issue the following command to start the configuration tool:

```
DSYconfig remote-admin-config
```

The configuration tool stores log information about the configuration process in the following directories:

**Windows systems**

<DSYPATH>\log

**Linux and UNIX systems**

\$DSYINSTDIR/log

## Enabling IPv6 support on the embedded application server

Follow these instructions to enable IPv6 support on the embedded application server.

**To enable IPv6 support on the embedded application server:**

1. Locate the server.xml file. The location of the file depends on the platform that you are running.

**Windows systems**

```
<DSYPATH>\WAS\profiles\default\config\cells\DefaultNode\nodes\DefaultNode\servers\
IBMDB2eServer\server.xml
```

**Linux and Unix systems**

```
$DSYINSTDIR/WAS/profiles/default/config/cells/DefaultNode/nodes/DefaultNode/
servers/IBMDB2eServer/server.xml
```

2. Locate the *genericJvmArguments* attribute. The attribute is within the `jvmEntries` tag, which is near the end of the server.xml file. The *genericJvmArguments* attribute contains a list of variables that the embedded application server passes to the JVM.
3. Add the following two variables to the beginning of the *genericJvmArguments* attribute:  
-Djava.net.preferIPv4Stack=false  
-Djava.net.preferIPv6Addresses=true
4. Update the startServer and stopServer scripts. The location of the scripts depends on the operating system that you are using.

**Windows systems**

```
<DSYPATH>\WAS\bin
```

**Linux and Unix systems**

```
$DSYINSTDIR/WAS/bin
```

Open each script and locate the line that begins with the following text:

```
"%JAVA_HOME%\bin\java"
```

Insert the following text immediately after the "%WAS\_CLASSPATH%" argument:

```
-Djava.net.preferIPv4Stack=false -Djava.net.preferIPv6Addresses=true
```

5. Verify that the DB2 Everyplace Sync Servlet is accessible through IPv6.

**Restriction for Windows systems:** For this step, use an alternate web browser such as Mozilla Firefox. Internet Explorer does not correctly handle IPv6 addresses.

Open a web browser and navigate to the IPv6 address of the DB2 Everyplace servlet. For example, if the servlet is running on the local host, navigate to `http://[::1]:9081/db2e/db2erdb`. If the browser window shows the words "DB2e SyncServer" with a time and date stamp, the servlet is running properly.

6. Set the mobile device to synchronize with the IPv6 address of the DB2 Everplace servlet.
7. Synchronize the mobile device.

## Configuring DB2 Everyplace in WebSphere Application Server environments

Topics in this section describe how to configure and unconfigure DB2 Everyplace for use with WebSphere Application Server and WebSphere Application Server Network Deployment.

### Configuring DB2 Everyplace in WebSphere Application Server 6

Follow these steps to configure DB2 Everyplace in WebSphere Application Server version 6.

- Install WebSphere Application Server version 6.
- Install the WebSphere Application Server version 6.0.2.5 fix pack.
- Install the IBM HTTP Server (IHS).
- Install the WebSphere Application Server version 6 HTTP plug-in.

**Important:** Do *not* perform these instructions unless you are running WebSphere Application Server version 6.0.2.5 or newer. DB2 Everyplace will not function properly on an earlier version of WebSphere Application Server.

These instructions use the following placeholders:

**WAS\_HOME**

refers to the installation directory of the WebSphere Application Server version 6

**WAS\_PROFILE\_NAME**

refers to the name of the profile created when a profile was created for WebSphere Application Server version 6

The default WebSphere Application Server profile name is "default". If your configuration uses more than one profile, use the script files of the profile that you want to associate with DB2 Everyplace.

**To configure DB2 Everyplace in WebSphere Application Server version 6:**

1. Start server1 in WebSphere Application Server.

**Windows**

- a. Log in as the administrator.
- b. Issue the following command: `<WAS_HOME>\bin\startServer.bat server1`

**UNIX and Linux**

- a. Log in as the root user
- b. Issue the following command: `<WAS_HOME>/bin/startServer.sh server1`

2. Install DB2 Everyplace.

3. Configure DB2 Everyplace based on your type of WebSphere environment. You have two choices:

**DB2 Everyplace basic configuration**

Use this option if you are running DB2 Everyplace on a single physical server.

**DB2 Everyplace distributed configuration**

Use this option if:

- You are running the DB2 Everyplace Distributed Database and the DB2 Everyplace Distributed Server on two separate physical servers.
- You are running the DB2 Everyplace Distributed Database and the DB2 Everyplace Distributed Server as unique instances on a single UNIX or Linux system.

4. Make sure the configured DB2 Everyplace Sync Server is not running. If the Sync Server is running, stop it:

**Windows**

Issue the following command: `<DSYPATH>\Server\bin\dsysyncstop.bat`

**UNIX and Linux**

- a. Log in as the DB2 Everyplace Sync Server instance.
- b. Issue the following command: `$DSYINSTDIR/Server/bin/dsysyncstop.sh`

5. Create the DB2 Everyplace application server.

**Windows**

- a. Change to the `<DSYPATH>\config\work\was` directory.
- b. Issue the following command:  
`<WAS_HOME>\bin\wsadmin.bat -profileName profile_name -f dsyInstallDB2eWAS6.jac1  
DSYINSTDIR DSYSQLIBINSTDIR WAS_virtual_host WAS_node_name WAS_cell_name IP_address  
server_name application_name context_root WebServer_name [user] [group]`

**UNIX and Linux**

- a. Log in as the root user.
- b. Change to the `$DSYINSTDIR\config\work\was` directory.
- c. Issue the following command:

```
<WAS_HOME>/bin/wsadmin.sh -profileName WAS_PROFILE_NAME -f dsyInstallDB2eWAS6.jac1
DSYINSTDIR DSYSQLIBINSTDIR WAS_virtual_host WAS_node_name WAS_cell_name IP_address
server_name application_name context_root WebServer_name user group
```

where

**profile\_name**

The existing profile WebSphere Application Server profile name

**WAS\_node\_name**

The existing WebSphere node name for the DB2 Everyplace installation.

**Example:** For expert.yourcompany.com, use expert.

**WAS\_virtual\_host**

The existing WebSphere virtual host name.

**Example:** default\_host

**WAS\_cell\_name**

The existing WebSphere cell name for DB2 Everyplace installation

**IP\_address**

A valid IP address or fully qualified DNS host name for the server

**server\_name**

The DB2 Everyplace server name.

**Example:** DB2e1

**application\_name**

The name of the DB2 Everyplace Enterprise Edition Application. Set this parameter to DB2EveryplaceEnterprise9.1.

**context\_root**

The context root for the DB2 Everyplace Enterprise Edition Application. Set this parameter to db2e.

**WebServer\_name**

The name of the HTTP server that interacts with WebSphere Application Server

**user** The name of the DB2 Everyplace Sync Server instance. This parameter is optional on Windows systems.

**group** The name of the primary group for the DB2 Everyplace Sync Server instance. This parameter is optional on Windows systems.

6. **Optional:** Activate WebSphere Application Server 6 IPv6 support.

a. Open a web browser and go to the WebSphere Application Server 6 Administrative Console.

b. Navigate to **Application servers** → **server1** → **Process Definition** → **Java Virtual Machine**

c. Locate the **Generic JVM Arguments** field and enter the following flags:

```
-Djava.net.preferIPv4Stack=false -Djava.net.preferIPv6Addresses=true
```

d. Update the startServer and stopServer scripts. You can find the scripts in the <WAS\_HOME>\bin\ directory. Open each script and locate the line that begins with the following text:

```
"%JAVA_HOME%\bin\java"
```

Insert the following text immediately after the "%WAS\_CLASSPATH%" argument:

```
-Djava.net.preferIPv4Stack=false -Djava.net.preferIPv6Addresses=true
```

e. Verify that the DB2 Everyplace Sync Servlet is accessible through IPv6.

**Restriction for Windows systems:** For this step, use an alternate web browser such as Mozilla Firefox. Internet Explorer does not correctly handle IPv6 addresses.

Open a web browser and navigate to the IPv6 address of the DB2 Everyplace servlet. For example, if the servlet is running on the local host, navigate to `http://[::1]:9081/db2e/db2erdb`. If the browser window shows the words "DB2e SyncServer" with a time and date stamp, the servlet is running properly.

- f. Set the mobile device to synchronize with the IPv6 address of the DB2 Everyplace servlet.
- g. Synchronize the mobile device.

## Starting the DB2 Everyplace application server in WebSphere Application Server 6

After you have installed DB2 Everyplace in WebSphere Application Server version 6, you can start the DB2 Everyplace application server.

**Prerequisites:** Start your webserver.

1. Start the DB2 Everyplace application server.

### Windows

Issue the following command:

```
<WAS_HOME>\profiles\<PROFILE_NAME>\bin\startServer.bat <serverName>
```

### UNIX or Linux

- a. Log in as the root user.
- b. Source the profile of the DB2 Everyplace Sync Server instance.  
**Example:** `. ~<DSYINSTANCE>/<profile>`  
where *<profile>* is the file name of the login profile of the DB2 instance.
- c. Issue the following command:

```
<WAS_HOME>/profiles/<PROFILE_NAME>/bin/startServer.sh <serverName>
```

where

### PROFILE\_NAME

The name of the WebSphere Application Server profile that runs the DB2 everyplace application server.

### serverName

The name of the DB2 Everyplace application server.

2. Check that the DB2 Everyplace application server has started properly.

- a. Open a web browser.
- b. Type the following URL: `http://yourhostname.yourdomain/db2e/db2erdb`

You should see the phrase "DB2e SyncServer" followed by the current time of the server.

## Unconfiguring DB2 Everyplace in a WebSphere Application Server 6 environment

Follow these steps to unconfigure DB2 Everyplace in WebSphere Application Server version 6.

**To unconfigure DB2 Everyplace in WebSphere Application Server version 6:**

1. Start server1 in WebSphere Application Server.

### Windows

- a. Log in as the administrator.
- b. Issue the following command: `<WAS_HOME>\bin\startServer.bat server1`

### UNIX and Linux

- a. Log in as the root user
- b. Issue the following command: `<WAS_HOME>/bin/startServer.sh server1`

2. Make sure the configured DB2 Everyplace Sync Server is not running. If the Sync Server is running, stop it:



## Windows

Issue the following command: `<WAS_HOME>\bin\stopServer.bat <server_name>`

## UNIX and Linux

- a. Log in as the DB2 Everyplace Sync Server instance.
- b. Issue the following command: `<WAS_HOME>/bin/stopServer.sh <server_name>`

where `<server_name>` is the DB2 Everyplace server name.

3. Unconfigure the DB2 Everyplace application server.

## Windows

- a. Change to the `<DSYPATH>\config\work\was` directory.
- b. Issue the following command:  
`<WAS_HOME>\bin\wsadmin.bat -profileName profile_name -f dsyUninstallDB2eWAS6.jacl  
WAS_node_name server_name application_name`

## UNIX and Linux

- a. Log in as the root user.
- b. Change to the `$DSYINSTDIR\config\work\was` directory.
- c. Issue the following command:  
`<WAS_HOME>/bin/wsadmin.sh -profileName WAS_PROFILE_NAME -f  
dsyUninstallDB2eWAS6.jacl WAS_node_name server_name application_name`

where

### WAS\_node\_name

The existing WebSphere node name for the DB2 Everyplace installation.

**Example:** For `expert.yourcompany.com`, use `expert`.

### server\_name

The DB2 Everyplace server name.

**Example:** `DB2e1`

### application\_name

The name of the DB2 Everyplace Enterprise Application. Set this parameter to `DB2EveryplaceEnterprise9.1`.

## Unconfiguring DB2 Everyplace Enterprise Edition

You must unconfigure DB2 Everyplace before you uninstall it. You can unconfigure DB2 Everyplace by using either the unconfiguration wizard or the command-line configuration tool

### Unconfiguring DB2 Everyplace Enterprise Edition by using the command-line configuration tool

You can use the command-line configuration tool to unconfigure a DB2 Everyplace installation.

1. Locate the `dsyconfig.properties` file. The location of the file depends on your platform.

#### Windows systems

`<DSYPATH>\config`

#### Linux and UNIX systems

`$DSYINSTDIR/config`

2. On Linux and UNIX systems, edit the *instance* property to point to the name of the DB2 Everyplace Sync Server instance that you want to unconfigure. This must be an existing DB2 Version 9.1 instance.
3. Issue the following command to start the configuration tool:

`DSYconfig <configuration-type>`

where *<configuration-type>* is the type of unconfiguration that you want to perform. The following table lists the values of *<configuration-type>* that you need to use to unconfigure DB2 Everyplace.

Table 29. Parameters to unconfigure DB2 Everyplace by using the command-line tool

Type of configuration	Value of <i>&lt;configuration-type&gt;</i>
Basic	basic-deconfig
Distributed database	distributed-database-deconfig
Distributed server	distributed-server-deconfig
Remote administration	remote-admin-deconfig
Cluster	cluster-deconfig

The configuration tool stores log information about the unconfiguration process in the following directories:

**Windows systems**

*<DSYPATH>*\log

**Linux and UNIX systems**

*\$DSYINSTDIR*/log

**Example:** To unconfigure an instance that is configured as a distributed database, edit the *dsyconfig.properties* file to point to the instance name, then issue the following command:

```
DSYconfig distributed-database-deconfig
```

## Unconfiguring DB2 Everyplace Enterprise Edition by using the unconfiguration wizard

You can use the Configuration wizard to unconfigure a DB2 Everyplace installation. The Configuration wizard detects the type of DB2 Everyplace configuration, stops services, and uncatalogs databases. On Linux and UNIX computers, the wizard drops all DB2 Everyplace Sync Server instances and deletes the *\$DSYINSTDIR* directories.

### To unconfigure DB2 Everyplace Enterprise Edition:

1. Log in as the DB2 administrator (Windows systems) or as the root user (Linux or UNIX systems).
2. Back up all user data.
3. Start the DB2 Everyplace Configuration wizard.

**Windows systems**

Run the *DSYconfig.exe* file, which is installed by default in the *<DSYPATH>*\config\bin directory.

You can also use a Start menu shortcut: **Start** → **Programs** → **IBM DB2 Everyplace Enterprise** → **Setup Tools** → **DB2 Everyplace Configuration Wizard**.

**Linux and UNIX systems**

Run the *DSYconfig.bin* file, which is installed by default in the *\$DSYINSTDIR*/config/bin directory.

4. Click **Next**.
5. Select **Unconfigure** (on a Windows system) or **Drop** (on a Linux or UNIX system).
6. Proceed by following the wizard's prompts.

After you successfully unconfigure DB2 Everyplace, you can uninstall it.

---

## Configuring DB2 Everyplace on mobile devices

Follow the instructions in this section to configure DB2 Everyplace on mobile devices.

## Secure Sockets Layer and DB2 Everyplace mobile devices

Secure Sockets Layer (SSL) encryption provides added security when you synchronize your data to a mobile device.

To use SSL, you must install a certificate on the mobile device so that it can verify that it is communicating with the appropriate server. The certificate must be obtained from the public SSL certificate of the HTTP server with which the mobile devices will synchronize. For information about how to obtain and export the certificate in a format that the mobile device can install and use, refer to the documentation for the server that is providing the SSL service. Be sure to obtain a real, signed certificate from a certificate authority.

If you are using the IBM HTTP Server that is installed with the WebSphere Application Server, use the `ikeyman` tool in the `<IHS>\bin` directory to export the SSL certificate. If you are using the embedded version of the WebSphere Application Server, `ikeyman` is in the `<DSYPATH>\WAS\bin` directory. Be sure to export the public certificate.

**Important:** Windows CE and Symbian devices do not need manual installation of certificates. When synchronizing with these mobile devices, you need to specify only the address of the SSL server. For example, `https://www.syncsample:9558/`.

### Configuring SSL on Linux mobile devices

Follow these instructions to configure SSL on Linux mobile devices.

**Prerequisite:** In order to use SSL on Linux mobile devices, you must first install the OpenSSL libraries. Download and install these libraries from <http://www.openssl.org> before you configure SSL on Linux client devices.

#### To configure SSL for Linux client devices:

1. Log in as the root user.
2. Obtain the certificate file that you want to install on the DB2 Everyplace Sync Client. Use base-64 encoded X.509 format.

**Tip:** You can obtain the certificate by using a web browser and then export it to the required format. The Web site will send the certificate file to the mobile device on the first connection.

3. Copy the certificate to the `/usr/share/ssl/certs` directory.
4. Determine the hash value of the certificate by entering the following command:

```
openssl x509 -noout -hash -in ca_certificate file
```

where *ca\_certificate file* is the name of the base-64 encoded X.509 certificate file.

5. Create a symbolic link to the certificate file. The name of the link must be the hash value appended with a ".0". For example:

```
ln -s ca_certificate file 9c975d97.0
```

where *ca\_certificate file* is the name of the certificate file, and *9c975d97* is the hash value that was obtained from the previous step.

6. Verify the installation of the certificate by entering the following command:

```
openssl verify -CApath /usr/share/ssl/certs /usr/share/ssl/certs/ca_certificate_file
```

If installation is successful, this message or a similar message will be displayed: `/usr/share/ssl/certs/ca_certificate_file: OK`

If you receive an error message, see the troubleshooting steps located at <http://www.openssl.org/docs/apps/verify.html>.

## Configuring SSL for Palm OS mobile devices

Follow these instructions to configure SSL for Palm OS mobile devices.

**Prerequisite:** Download the certificate conversion utility, `palmdb.exe`, from <http://www.ibm.com/support/>.

### To configure SSL for Palm OS client devices:

1. Start IBM Key Management (ikeyman), which is included with the IBM HTTP server.
2. Open a key database file that includes an appropriate certificate.
3. Select a certificate to extract.  
For a self-signed certificate:
  - a. Select **Personal Certificates** from the drop-down list.
  - b. Select an appropriate self-signed certificate from the list of personal certificates.
  - c. Click **Extract Certificate**.For a real certificate that is obtained from CA:
  - a. Select **Signer Certificates** from the drop-down list.
  - b. Select an appropriate certificate from the list of signer certificates.
  - c. Click **extract**.
4. Select **Binary DER data** as the data type.
5. Enter `cacerts.bin` as the certificate file name and save it.
6. Place the `palmdb.exe` file in the same directory as the `cacerts.bin` file.
7. Issue the `palmdb.exe` command. After you run the command, make sure that the `SSLCaCerts.pdb` file was created in the same directory as the `palmdb.exe` and `cacerts.bin` files.
8. Install the `SSLCaCerts.pdb` file on the Palm OS client device by using the Palm Desktop
9. Select **SSL enable** on the Palm OS client device.

## Configuring SSL for Windows mobile devices

Follow these instructions to configure SSL for Windows mobile devices.

### To configure SSL for Windows client devices:

1. Connect to the SSL server by typing the following address into a Web browser:  
`https://<server>:<port>/db2e/db2erdb/`  
  
where `<server>` is the server to which you are connecting and `<port>` is the SSL port of the server. If a message is displayed that indicates that you are viewing pages over a secure connection, click **OK**. The Security Alert window opens.
2. Click **View Certificate**. The Certificate window opens
3. Click **Install Certificate**. The Certificate Import Wizard opens.
4. Click **Next**.
5. Select **Automatically select the certificate store based on the type of certificate** and click **Next**.
6. Click **Finish**. The Security Warning window opens.
7. Click **Yes**. The Certificate Import wizard window opens, which confirms that the certificate was imported successfully.
8. Click **OK**. The Certificate window opens.
9. Click **OK**. The Security Alert window opens.
10. Click **Yes** to connect to the SSL server. The DB2 Everyplace Sync Server displays the following message: `DB2e SyncServer <date><time>`.

## Configuring the DB2 Everyplace ODBC driver

**Prerequisite:** ODBC Manager is required. These Windows system files are not packaged with DB2 Everyplace. You can download the Microsoft Data Access Components from the Microsoft Universal Data Access Web site. If ODBC Manager is missing, ODBCInst.exe returns the following error message: The ODBC installer DLL is not installed on this system.

**Restriction:** The DB2 Everyplace ODBC driver is supported only on Windows 32-bit operating systems.

Open Database Connectivity (ODBC) is an application programming interface for developing programs that are database independent or that access multiple data sources simultaneously. To reduce DB2 Everyplace's footprint, DB2 Everyplace ODBC driver and setup functions are provided in a separate file, DB2eODBC.dll.

The DB2 Everyplace ODBC driver supports the same functions as the DB2 Everyplace CLI interface, and has the same limitations. DB2 Everyplace ODBC driver might not meet the requirements of most ODBC GUI tools. One good use of this driver is to write database-independent code without compiling or linking with DB2 Everyplace files. You can also access multiple data sources from different vendors simultaneously.

When you install DB2 Everyplace, the following files are copied to the same directory as DB2e.dll (default location: C:\Program Files\IBM\DB2Everyplace\Clients\win32\database\x86).

### **DB2eODBC.dll**

DB2 Everyplace ODBC driver and setup utility

### **ODBCInst.exe**

Program for registering the ODBC driver

### **To configure the DB2 Everyplace ODBC driver:**

1. Register the DB2 Everyplace ODBC driver by using the desktop ODBC manager. From command line, enter `odbcinst.exe -i`
2. Add a user data source.
  - a. Start the ODBC Data Sources program from the Control Panel.  
Choose **Start** → **Settings** → **Control Panel** → **Administrative Tools** → **Data Sources (ODBC)**.
  - b. Click **Add** in the User DSN panel.
  - c. Choose **IBM DB2 Everyplace ODBC Driver** from the list of drivers in the Create New Data Source window.
  - d. Click **Finish**.
  - e. Enter the following information in the IBM DB2 Everyplace ODBC Driver configuration panel:

#### **Data Source Name**

ODBC data source name

#### **Description**

A description of the data source.

#### **DB2 Everyplace Database Directory**

DB2 Everyplace data source name, for example: C:\data\employee\.

## **DB2 Everyplace Sync Client IPv6 support**

- | As of Version 9.1, DB2 Everyplace now supports IPv6. Use these guidelines to utilize IPv6 in your DB2 Everyplace applications.

| The DB2 Everyplace Sync Client supports both IPv6 and IPv4 on the Windows and Linux platforms. You  
| can send a URL in either IPv4 or IPv6 format. For example, the following URLs are shown in valid  
| syntax:

| IPv4: `http://9.30.181.10:9081`

| IPv6: `http://[2002:91E:8F78:2011:9:30:181:10]:9081`

| **Important:** To synchronize DB2 Everyplace with a Cloudscape™ database at an IPv6 address, you must  
| first pass the following options to the JVM when you start the DB2 Everyplace Sync Client:  
| `-Djava.net.preferIPv4Stack=false -Djava.net.preferIPv6Addresses=true`

## | **Synchronizing and verifying data on a Palm OS mobile device or emulator**

Follow these steps to synchronize a Palm OS mobile device with data stored in the Visiting Nurse sample application database.

### **Prerequisites:**

1. Install DB2 Everyplace files on the Palm OS mobile device or emulator.
2. Install the Visiting Nurse sample application on the Palm OS mobile device or emulator.

### **To synchronize and verify data on a Palm OS mobile device or emulator:**

1. Start the DB2 Everyplace Sync Server.

#### **Windows systems**

Click **Start** → **Programs** → **DB2 Everyplace** → **Administration Tools** → **Start Servlet for Sync Server**.

#### **Linux and UNIX systems**

- a. Log in as the DB2 Everyplace Sync Server instance owner.
  - b. Change to the `$DSYINSTDIR/Server/bin` directory
  - c. Run the `dsysync.sh` script.
2. Go to `http://127.0.0.1:<port>/db2e/db2erdb` to verify that the DB2 Everyplace Sync Server is running. Replace `<port>` with the actual port of the DB2 Everyplace Sync Server. Ensure that the following message is displayed:  
`DB2eSyncServer <datetime string>`
  3. Start the mobile device or emulator.
  4. Click **DB2 Sync**.
  5. Click **Synchronize**. The synchronization begins. You can stop a synchronization at any time by clicking **Cancel**. When the synchronization ends, one of the following messages will be displayed:
    - Synchronization succeeded
    - Synchronization failed
    - Synchronization cancelled
  6. When the Palm OS emulator or device displays the message Synchronization succeeded, open DB2eCLP..
  7. Issue the following statement to show contents of the table: `select * from VNMEDICALRECORD.`
  8. Open the Mobile Devices Administration Center and DB2 Control Center.

#### **Windows systems**

Click **Start** → **Programs** → **IBM DB2 Everyplace** → **Start Mobile Devices Administration Center**.

#### **Linux and UNIX systems**

- a. Log in as the DB2 Everyplace Sync Server instance owner.

- b. Change to the \$DSYINSTDIR/Server/bin directory
  - c. Run the dsyadmin.sh script.
9. Expand the object tree in the DB2 Control Center until you see the VNURSE database.
10. Select the **Tables** folder of the VNURSE database to show the VNURSE tables.
11. Right-click the **VNMEDICALRECORD** table and select **Sample Contents** from the menu.
12. Compare the contents of the table on the Palm OS emulator or device to the sample contents of the table in the DB2 Control Center.





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## DB2 Everyplace support and troubleshooting

This topic presents tools, utilities, and techniques that you can use to identify and solve DB2 Everyplace problems.

---

### Troubleshooting configuration errors

These techniques will help you to troubleshoot errors that might arise while you are using the configuration wizard or the command-line configuration tool.

#### Stop the DB2 Everyplace Sync Server

If you receive an error message due to an incorrect or invalid value for a property in the configuration wizard or the dsyconfig.properties file, stop the servlet or process for the DB2 Everyplace Sync Server (the default name is IBMDB2eServer) before you run the Configuration wizard or the command-line configuration tool again.

To stop the DB2 Everyplace Sync Server, open a command window and issue the following command:

##### Windows systems

```
<DSYPATH>\server\bin\dsysyncstop
```

You can also use a Start menu shortcut: **Start** → **Programs** → **IBM DB2 Everyplace Enterprise** → **Admin tools** → **Stop Servlet for Sync Server** .

##### Linux and UNIX systems

1. Log in as the DB2 Everyplace Sync Server instance that you want to stop.
2. Run the \$DSYINSTDIR\server\bin\dsysyncstop command.

### Unconfiguration of embedded Application Server - Express fails

When a Windows service is stopped, files that are locked by that service are not always released immediately. As a result, the DB2 Everyplace configuration tools might be unable to delete certain files and directories, and the unconfiguration process will fail. If this happens, start the unconfiguration process again.

---

## Diagnostic data for the DB2 Everyplace mobile database

DB2 Everyplace provides the following methods to log the activity of your applications. This data can help you troubleshoot problems throughout the development and testing process.

#### Trace files

Tracing allows you to view detailed information about each transaction between your application and the DB2 Everyplace database engine. To enable tracing, install the development libraries on the mobile device.

#### Log files

When an application encounters a severe system error (SQLState 58005), DB2 Everyplace logs the error in a log file.

#### Dump files

When an application encounters a severe system error (SQLState 58005), DB2 Everyplace captures the system state in a dump file.

The following table lists the names of each type of diagnostic file. DB2 Everyplace creates these files in the same directory as the mobile database.

Table 30. Tracing and diagnostics file names

Type of	Long file name	Short file name (8.3 format)
Trace file	DSY_DB2eTRACE	_trc.DBs
Log file	db2ediag.log	_diag.DBs
Dump files	DB2e_#####	_#####.DBs

where ##### is the process identifier (PID) number of the affected process.

## Diagnostic data for the DB2 Everyplace Sync Server

Use the following files to troubleshoot problems with the DB2 Everyplace Sync Server or the Mobile Devices Administration Center.

Table 31. Log and trace files for the DB2 Everyplace Sync Server and Mobile Devices Administration Center

File type	Path
DB2 Everyplace Sync Server log file	<DSYPATH>\Server\logs\IBMDB2eServer\syncadapterinit.log
DB2 Everyplace Sync Server trace file	<DSYPATH>\Server\logs\IBMDB2eServer\dsyn###.trace
Mobile Devices Administration Center trace file	<DSYPATH>\Server\logs\dsyadmin###.trace

**Important:** If you are using Windows, view the log and trace files in Wordpad. Non-English characters in the log files might not display correctly if you view them from the command prompt.

To change the directory to which DB2 Everyplace stores its log files, edit the DSYGdflt.properties file, which is located in the <DSYPATH>\Server\properties\com\ibm\mobileservices directory. Set the Trace.Path property to the directory to which you want the log files to be stored. Use "\\\" to denote subdirectories.

**Example:** To store the log files in the C:\log\DB2e directory, enter the following value for the Trace.Path property:c:\\log\\DB2e

## Enabling tracing for the DB2 Everyplace Sync Client

Each time that you synchronize a mobile device, the DB2 Everyplace Sync Client generates a trace file called trace-isyn that stores information about the synchronization process. Follow these steps to enable tracing in your CLI-based application.

1. Call the iscServiceOpenEx() function to create a new service handle. When you call the function, set the value of the *isync.trace* argument to "detailed".
2. Call the iscConfigOpen() function to connect to the configuration store. When you call the function, set the value of the *path* argument to the path to which you want to store the trace-isyn file.

**Important:** For debugging purposes, view the file by using a text editor on a workstation. If you are using Windows, open the trace file in Wordpad. Windows Notepad might not display international characters properly.

**Important:** When you report a synchronization problem, include a detailed-level trace file.

---

## Verifying database integrity with the data integrity check tool

The data integrity check tool reports whether tables and indexes are corrupted.

To run this tool, execute the DBCHECK command in DB2eCLP. The command syntax is:

```
DBCHECK outputfile
```

The *outputfile* parameter specifies a text file in the database directory where the tool will write the results.

**Note:** This tool is supported on Linux and Windows 32-bit operating systems only.

---

## DB2 Everyplace Update Tool error messages

This topic lists all of the error messages that can be generated by the DB2 Everyplace Update Tool.

Table 32 displays the error message and a possible remedy for the problem.

*Table 32. Troubleshooting guide*

Error message	Possible remedy
Authentication failed (invalid encryption key) - update aborted	Verify that the client settings match the user's settings defined in the Mobile Device Administration Center.
File size exceeds available memory	Delete any applications or files that are no longer needed on the device and try again.
Internal server error	This is an internal error that you need to report to IBM Software Support with the trace file.
Failed to open connection	Check your network connection and the SyncServer. Make sure that the host is connected and the server is running.
Failed to establish connection	Check your network connection and the SyncServer. Make sure that the host is connected and the server is running.
Failed to send request	Try to synchronize again when there is less traffic on the network or try to synchronize from a faster network.
Failed to receive reply	Try to synchronize again when there is less traffic on the network or try to synchronize from a faster network.
Timeout while receiving reply	Specify a larger timeout value or try to synchronize when there is less traffic on the network.
Failed to receive acknowledge	Try to synchronize again when there is less traffic on the network or try to synchronize from a faster network.
Failed to open Net library	Verify that the network library exists on the device. Try to reinstall the library.
Failed to resolve hostname	Verify that the hostname and the DNS addresses are correct.
Failed to allocate working buffer for transport	Delete any applications or files that are no longer needed on the device and try again.
Unknown network error	This is an internal error that you need to report to IBM Software Support with the trace file.
Failed to create target file	Verify that the target file is not being used by another application. If the target file is being used, unlock it and synchronize again.
No files received for update	This is an informational message stating that the server does not have an update for the mobile device.



---

# Glossary

## Special characters

### **\$DSYINSTDIR**

Refers to the directory where DB2 Everyplace is installed on a Linux or UNIX computer.

### **<DSYPATH>**

Refers to the directory where DB2 Everyplace is installed on a Windows computer.

## A

### **Apply qualifier**

A character string that identifies subscription definitions that are unique to each instance of the DataPropagator Apply program.

### **authentication**

The process of validating a user's ID and password against entries in the control database to ensure that the user is authorized to use the DB2 Everyplace Sync Server to synchronize data.

### **authorization**

In computer security, the right granted to a user to communicate with or make use of a computer system.

## B

### **binary large object (BLOB)**

A sequence of bytes, where the size of the sequence ranges from 0 to 2 gigabytes. This byte sequence does not have an associated code page and character set. Image, audio, and video objects are stored in BLOBs.

**bind** In SQL, the process by which the output from the SQL precompiler is converted to a usable structure called an access plan. During this process, access paths to the data are selected and some authorization checking is performed.

**BLOB** See *binary large object* .

## C

**client** A program or user that communicates with and accesses a database server. You define clients using the Mobile Devices Administration Center.

### **conflict detection**

The process of detecting an out-of-date row in a target table that was updated by a user application. When a conflict is detected, the transaction that caused the conflict is rejected.

### **Control Center**

A graphical interface that shows database objects (such as databases and tables) and their relationship to each other. From the Control Center, you can perform the tasks provided by the DBA Utility, Visual Explain, and Performance Monitor tools.

## D

### **data filter**

See *filter*.

### **data synchronization**

See *mobile data synchronization*.

**database management system (DBMS)**

A computer program that manages data by providing the services of centralized control, data independence, and complex physical structures for efficient access, integrity, recovery, concurrency control, privacy, and security.

**database server**

A functional unit that provides database services for databases.

**DB2 Control Center**

See *Control Center*.

**DB2 DataPropagator**

A replication product that provides an automated method of replicating data from sources to targets. During mobile data synchronization, the mirror and remote databases serve as both source and target. DataPropagator replicates clients' changes from the mirror to the remote database, and also replicates changes from the remote database to the mirror database.

**DBCS** See *double-byte character set*.

**DHCP** See *Dynamic Host Configuration Protocol*.

**DPROP**

See *DB2 DataPropagator*.

**double-byte character set (DBCS)**

A set of characters in which each character is represented by two bytes.

**Dynamic Host Configuration Protocol (DHCP)**

An Internet protocol for automating the configuration of computers that use TCP/IP.

**E****enterprise database**

See *source database*.

**enterprise server**

See *source server*.

**F**

**filter** A device or program that separates data, signals, or material in accordance with specified criteria.

**G**

**group** A collection of clients that have similar mobile data synchronization needs. You define synchronization characteristics for each group, such as which applications the users in the group need to access to perform their jobs and what subsets of enterprise data they need to access.

**H****handheld device**

Any computing device that can be held in the hand. Handheld devices include palm-sized PCs and personal digital assistants (PDAs).

**I****IBM Sync**

The name for the icon representing the client component of the DB2 Everyplace Sync Server software.

## J

**join** A relational operation that allows for retrieval of data from two or more tables based on matching column values.

## K

**key** A column or an ordered collection of columns that are identified in the description of a table, index, or referential constraint.

## L

### large object (LOB)

A sequence of bytes, where the length can be up to 2 gigabytes. It can be any of three types: BLOB (binary), CLOB (single-byte character or mixed), or DBCLOB (double-byte character).

**LOB** See *large object*.

### local database

A database that is physically located on the computer in use. Contrast with *remote database*.

**log** A Mobile Devices Administration Center object containing synchronization error messages and their descriptions.

## M

### master database

See *source database*.

### MDAC

See *Mobile Devices Administration Center*.

### mid-tier system

The machine where the DB2 Everyplace Sync Server is installed. In a two-tier synchronization configuration, the mid-tier and source systems refer to the same machine.

### mirror database

A database that the DB2 Everyplace Sync Server uses internally to store the data that is required for synchronization and replication.

### mobile

Pertaining to computing that is performed on a portable computer or a handheld device by a user who is frequently moving among various locations and using different types of network connections (for example, dial-up, LAN, or wireless).

### mobile data synchronization

A two-step process whereby mobile users, or *clients*, submit changes that they made to local copies of source data and receive any changes that were made to source data (in a remote database) since the last time they synchronized.

### Mobile Devices Administration Center (MDAC)

A graphical interface that allows you to create, edit, and view synchronization objects and their relationships to each other. The Mobile Devices Administration Center also allows you to view synchronization status of individual clients and error messages.

## O

**object** Anything that can be created or manipulated with SQL, for example, tables, views, indexes, or packages. In object-oriented design or programming, an abstraction consisting of data and operations associated with that data.

### ODBC

See *Open Database Connectivity*.

**Open Database Connectivity (ODBC)**

An API that allows access to database management systems using callable SQL, which does not require the use of an SQL preprocessor. The ODBC architecture allows users to add modules, called database drivers, that link the application to their choice of database management systems at run time. Applications do not need to be linked directly to the modules of all the supported database management systems.

**P**

**PDA** See *personal digital assistant* .

**persistent**

Pertaining to data that is maintained across session boundaries, usually in nonvolatile storage such as a database system or a directory.

**personal digital assistant (PDA)**

A handheld device that is used for personal organization tasks (such as managing a calendar and note-taking) and includes telephone, fax, and networking features.

**pervasive computing (PVC)**

The use of a computing infrastructure that includes specialized appliances, known as information appliances, from which users can access a broad range of network-based services (including services that are typically offered through the Internet). These information appliances include televisions, automobiles, telephones, refrigerators, and microwave ovens. Pervasive computing provides convenient access to relevant information and the ability to take action on that information.

**primary key**

A unique key that is part of the definition of a table. A primary key is the default parent key of a referential constraint definition. With the DB2 Everyplace Sync Server Version 7, each replication source must have one and only one primary key.

**privilege**

The right to access a specific database object in a specific way. These rights are controlled by users with SYSADM (system administrator) authority or DBADM (database administrator) authority or by creators of objects. Privileges include rights such as creating, deleting, and selecting data from tables.

**PVC** See *pervasive computing* .

**Q**

**query** A request for information from the database based on specific conditions; for example, a request for a list of all customers in a customer table whose balance is greater than \$1000.

**R**

**RAS** See *Remote Access Service* .

**refresh**

A process in which all of the data of interest in a user table is copied to the target table, replacing existing data.

**remote database**

A database that is physically located on a computer other than the one in use. Contrast with local database. The remote computing device can be stationary and nonportable, or it can be portable.

**Remote Access Service (RAS)**

A Windows program that manages connections between two systems.



**replication**

The process of taking changes that are stored in the database log or journal at a source server and applying them to a target server.

**replication source**

A database table that is defined as a source for replication. After you define a database table as a replication source, the table can accept copy requests.

**S**

**SQL** See *Structured Query Language* .

**source database**

A database residing on a source server containing data to be copied to a target system.

**source server**

The database location of the replication source.

**source table**

A table that contains the data that is to be copied to a target table. The source table must be a replication source table. Contrast with *target table*.

**subscription**

A specification for how the information in a source database is to be replicated to a target database. A subscription allows you to define which subsets of data and files can be copied from the source database. You can create two types of subscriptions: file subscriptions for files stored at the source server and table subscriptions for tables in the source database.

**subscription set**

A Mobile Devices Administration Center object containing replication subscriptions. To provide group members with access to the data and files defined in replication subscriptions, you create a subscription set and assign subscriptions to it, then assign the subscription set to a group. The subscription set object replaces the application object.

**synchronization**

See mobile data synchronization.

**synchronization object**

A manageable item within the Mobile Devices Administration Center that contains information about aspects of the synchronization process in your organization. There are five types of synchronization objects: group, client, subscription set, subscription, and log.

**synchronization session**

A transaction in which mobile users, or *clients*, submit changes that they made to local copies of source data and receive any changes that were made to source data (residing on the remote server) since the last time they synchronized.

**Structured Query Language (SQL)**

A programming language that is used to define and manipulate data in a relational database.

**T****target database**

A DB2 Everyplace database residing on a mobile device to which data from a source database is copied.

**target table**

A table to which data from a source table is copied. Mirror tables on the mid-tier server are targets, and DB2 Everyplace tables on the mobile device are targets.

**tap** To use a stylus to interact with a handheld device.

**temporary table**

A table created during the processing of an SQL statement to hold intermediate results.

**V**

**view** A logical table that consists of data that is generated by a query.

**W****wireless LAN**

In wireless uses, a mobile user can connect to a local area network (LAN) through a radio connection. Wireless technologies for LAN connection include speed spectrum, microwave, and infrared light.

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# Index

## Special characters

\$DSYINSTDIR v  
<DSYPATH> v

## A

accessibility vii  
AIX, preparing to install DB2 Everyplace  
on 21

## B

books vii

## C

clusters  
  activating 59  
  configuring nodes 57  
clusters, testing 59  
configuration errors  
  troubleshooting 79  
configuring  
  Database Edition 49  
  Enterprise Edition  
    activating the DB2 Everyplace  
    cluster 59  
    basic configuration 50, 51  
    clustered configuration  
    overview 52  
    configuring nodes in a DB2  
    Everyplace cluster 57  
    distributed configuration 60  
    distributed database 60  
    distributed server 61  
    preparing nodes for a clustered  
    configuration 53  
    remote administration 65  
    testing a clustered  
    configuration 59  
    types of configurations 49  
conventions v

## D

data integrity check tool 81  
Database Edition  
  configuring 49  
  installation requirements 23  
  installing 23  
    on a Linux mobile device 31, 36  
    on a Palm OS mobile device 32  
    on a QNX mobile device 33  
    on a Symbian mobile device 34  
    on a Windows CE mobile  
    device 34  
    on a Windows mobile device 35  
  uninstalling 24

DB2 Everyplace  
  information set vii  
DB2 Everyplace example scenario 3  
DB2 Everyplace Update Tool 46  
  error messages 81  
DB2 Everyplace version 8.2.x  
  uninstalling 18  
disability vii

## E

Enterprise Edition  
  configuring  
    activating the DB2 Everyplace  
    cluster 59  
    basic configuration 50, 51  
    clustered configuration  
    overview 52  
    configuring nodes in a DB2  
    Everyplace cluster 57  
    distributed configuration 60  
    preparing nodes for a clustered  
    configuration 53  
    types of configurations 49  
  configuring distributed database 60  
  configuring distributed server 61  
  configuring remote administration 65  
  installation requirements 24  
  installing  
    by using command-line installation  
    tool 28  
    on a Linux mobile device 36  
    on a Palm OS mobile device 38  
    on a QNX mobile device 39  
    on a Symbian mobile device 41,  
    42  
    on a Windows CE mobile  
    device 42  
    on a Windows mobile device 44  
    overview 24, 26  
    using the Installation wizard 26  
  testing a clustered configuration 59  
  unconfiguring  
    using the command-line tool 71  
    using the unconfiguration  
    wizard 72  
  uninstalling 29  
error messages  
  DB2 Everyplace Update Tool 81

## F

First Steps launchpad 29

## I

installing  
  Database Edition  
    installation requirements 23  
    on a Linux mobile device 31, 36

installing (*continued*)

  Database Edition (*continued*)  
    on a Palm OS mobile device 32  
    on a QNX mobile device 33  
    on a Symbian mobile device 34  
    on a Windows CE mobile  
    device 34  
    on a Windows mobile device 35  
    overview 23  
  during sequential migration 18  
  Enterprise Edition  
    by using command-line installation  
    tool 28  
    installation requirements 24  
    on a Linux mobile device 36  
    on a Palm OS mobile device 38  
    on a QNX mobile device 39  
    on a Symbian mobile device 41,  
    42  
    on a Windows CE mobile  
    device 42  
    on a Windows mobile device 44  
    overview 24, 26  
    using the Installation wizard 26  
  installing DB2 Everyplace Database  
  Edition 23  
  preparing to install  
    on AIX systems 21  
    on Linux systems 22  
    on Solaris systems 22

## K

keyboard shortcuts vii

## L

Linux, preparing to install DB2  
  Everyplace on 22  
log files  
  DB2 Everyplace mobile database 79

## M

migration  
  parallel 11  
    exporting configuration for  
    DataPropagator  
    subscriptions 12  
    exporting configuration for JDBC  
    subscriptions 13  
    importing configuration for  
    DataPropagator  
    subscriptions 13  
    importing configuration for JDBC  
    subscriptions 15  
  overview 9  
  preparing the version 8.2  
  server 11  
  requirements 10

- migration (*continued*)
  - parallel (*continued*)
    - synchronizing after migration 16
    - testing mobile devices 17
  - preparing the version 8.2 server 11
  - sequential
    - exporting configuration 18
    - importing configuration 18
    - installing DB2 Everyplace
      - during 18
      - overview 17
      - preparation 18
- mobile devices
  - supported 31

## O

- ODBC driver
  - configuring 75
- operating systems, supported 31

## P

- Palm OS
  - configuring for Secure Sockets Layer 74
  - synchronizing and verifying data 76
- platforms, supported 31

## S

- sample applications
  - overview 8
- screen readers and magnifiers vii
- Secure Sockets Layer
  - configuring for client devices 73
  - configuring for Palm OS mobile devices 74
  - configuring for Windows mobile devices 74
  - configuring on Linux mobile devices 73
- security
  - using Secure Sockets Layer 73
- software requirements, Sync Server 24
- Solaris, preparing to install DB2 Everyplace on 22
- Sync Client
  - upgrading software 46
- Sync Server
  - overview 4
  - setting up the update tool on 46
  - software requirements 24
- syntax diagram
  - how to read v

## T

- trace files
  - DB2 Everyplace mobile database 79
- tracing
  - DB2 Everyplace mobile database 79
- troubleshooting
  - configuration errors 79

## U

- unconfiguring
  - Enterprise Edition
    - using the unconfiguration wizard 72
- unconfiguring Enterprise Edition
  - using the command-line tool 71
- uninstalling
  - Database Edition 24
  - Enterprise Edition 29
  - old versions of DB2 Everyplace 18
- update tool
  - installing manually on a mobile device 47
  - installing on a mobile device using a file subscription. 47
  - setting up on the Sync Server 46

## W

- WebSphere Application Server 6
  - configuring DB2 Everyplace in 67
  - starting DB2 Everyplace in 70
- Windows
  - configuring for Secure Sockets Layer 74







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