

DB2



DB2 Version 9
for Linux, UNIX, and Windows

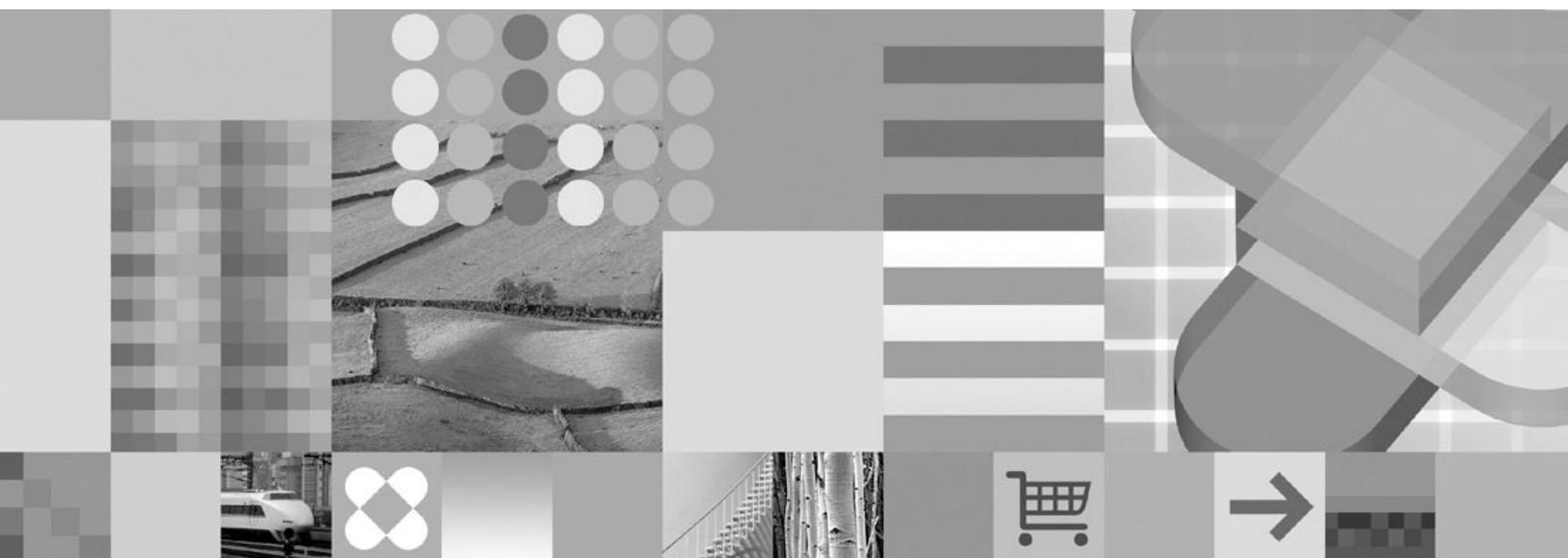


**Common Criteria Certification: Installing IBM DB2 Version 9.1
Enterprise Server Edition for Linux, UNIX, and Windows– Revision 04**

DB2®

IBM

DB2 Version 9
for Linux, UNIX, and Windows



**Common Criteria Certification: Installing IBM DB2 Version 9.1
Enterprise Server Edition for Linux, UNIX, and Windows– Revision 04**

Before using this information and the product it supports, be sure to read the general information under *Notices*.

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Common Criteria certification of DB2 products

For Version 9.1, IBM DB2 products are certified according to the Common Criteria evaluation assurance level 4 (EAL4), augmented with Flaw remediation ALC_FLR.1. The following product is certified on the following operating systems:

Table 1. Certified configurations

	Windows Server 2003	Red Hat Enterprise Linux 4	SuSE Linux Enterprise Server 9	AIX 5.3	Solaris 9
IBM DB2 Version 9.1 Enterprise Server Edition for Linux, UNIX, and Windows	Yes	Yes	Yes	Yes	Yes

Notes:

1. For a Common Criteria certified DB2 environment, DB2 requires 64-bit Windows Server 2003 x64, Red Hat Enterprise Linux 4, or SuSE Linux Enterprise Server 9 operating systems for Intel EM64T- and AMD64-based systems.
2. In a Common Criteria certified DB2 environment, DB2 clients are supported on the following operating systems:
 - Windows 2003
 - Red Hat Enterprise Linux 4
 - SuSE Linux Enterprise Server 9
 - AIX 5.3
 - Solaris 9

For more information about Common Criteria, see the Common Criteria web site at: <http://niap.nist.gov/cc-scheme/>.

For information about installing and configuring a DB2 system that conforms to the Common Criteria EAL4, see the following books:

- *Common Criteria Certification: Installing IBM DB2 Version 9.1 Enterprise Server Edition for Linux, UNIX, and Windows*
- *Common Criteria Certification: Administration and User Documentation*

These books are available in PDF format from the DB2 Information Management Library.

Supported interfaces for a Common Criteria evaluated configuration

The set of DB2 interfaces that are used in the Common Criteria evaluation of DB2 are as follows:

- The DB2 install program
- The command line processor
- DB2 commands
- DB2 application programming interfaces (APIs)
- SQL statements

You can use these interfaces when installing and configuring a Common Criteria compliant DB2 system.

Other interfaces that are provided by DB2, such as the Control Center or Command Editor were not used during the Common Criteria evaluation of DB2, **and must not be used in the Common Criteria evaluation configuration.**

NOT FENCED routines are not supported.

In the Common Criteria evaluation configuration, the installation procedures as documented in the following sections must be followed and the configuration options selected must not be modified while in the evaluation configuration:

- “Installing DB2 Enterprise 9 on AIX 5.3 for a single-partition Common Criteria compliant installation” on page 61
- “Installing DB2 Enterprise 9 on SuSE Linux Enterprise Server 9 for a single-partition Common Criteria compliant installation” on page 75
- “Installing DB2 Enterprise 9 on Solaris 9 for a single-partition Common Criteria compliant installation” on page 89
- “Installing DB2 Enterprise 9 on Red Hat Enterprise Linux 4 for a single-partition Common Criteria compliant installation” on page 102
- “Installing DB2 Enterprise 9 on Windows Server 2003 for a single-partition Common Criteria compliant installation” on page 117
- “Installing DB2 Enterprise 9 on AIX 5.3 for a multipartition Common Criteria compliant installation” on page 145
- “Installing DB2 Enterprise 9 on SuSE Linux Enterprise Server 9 for a multipartition Common Criteria compliant installation” on page 160
- “Installing DB2 Enterprise 9 on Solaris 9 for a multipartition Common Criteria compliant installation” on page 175
- “Installing DB2 Enterprise 9 on Red Hat Enterprise Linux 4 for a multipartition Common Criteria compliant installation” on page 190
- “Installing DB2 Enterprise 9 on Windows Server 2003 for a multipartition Common Criteria compliant installation” on page 205

About This Book

This book describes how to install IBM DB2 Version 9.1 Enterprise Server Edition for Linux, UNIX, and Windows (DB2 Enterprise 9) for a Common Criteria evaluation. It includes detailed instructions on installing this product on the following operating systems in a single-partition or a multiple-partition environment:

- Windows 2003
- Red Hat Enterprise Linux 4
- SuSE Linux Enterprise Server 9
- Solaris 9
- AIX Version 5.3

For information about security in a DB2 environment, and for information on configuring DB2 for the Common Criteria evaluation, refer to the following book:

- *IBM DB2 Common Criteria Certification: Administration and User Documentation*

Some topics in this book and the *IBM DB2 Common Criteria Certification: Administration and User Documentation* book may link to topics that are not in either of these books. Topics that are referenced outside of the Common Criteria certification documentation are for informational purposes only, and are not required for either installing or configuring a Common Criteria compliant environment.

Part 1. Installing DB2 servers

Chapter 1. Installation overview

DB2 Version 9 product and packaging information

For information about DB2 Version 9 product and packaging information, see <http://www-1.ibm.com/support/docview.wss?rs=73&uid=swg21219983>.

Related tasks:

- “An overview of installing your DB2 product (Linux and UNIX)” on page 7
- “An overview of installing your DB2 product (Windows)” on page 6

DB2 installation methods

This topic provides information about DB2® installation methods. The following table shows the installation methods that are available by operating system.

Table 2. Installation method by operating system.

Installation method	Windows®	Linux™ or UNIX®
DB2 Setup wizard	Yes	Yes
db2_install script	No	Yes
Response file installation	Yes	Yes
Manual installation	No	Yes

The following list describes DB2 installation methods.

Note: For a Common Criteria environment, only the DB2 Setup wizard and response file installation methods are supported.

DB2 Setup wizard

The DB2 Setup wizard is a GUI installer available on Linux, UNIX, and Windows operating systems. The DB2 Setup wizard provides an easy-to-use interface for installing DB2 products and for performing initial setup and configuration tasks. The DB2 Setup wizard can also be used to create instances and response files. The DB2 Setup wizard on Linux and UNIX requires an X server to display the GUI.

db2_install script

DB2 product installations are no longer operating system packages, and as a result, you can no longer use operating system commands for installation. Any existing scripts that you use to interface and query with DB2 installations will need to change.

The db2_install script installs *all* components for the DB2 product you specify with the English interface support. You can select additional languages to support with the -L parameter. You cannot select or deselect components.

The db2_install script allows more control over the setup process, in exchange for less control over the installation process, as it installs everything in the language(s) you specify. The DB2 Setup wizard allows

you more control over the installation process by choosing exactly what gets installed using the custom installation option.

The `db2_install` script does not perform user and group creation, instance creation, or configuration. This method of installation might be preferred in cases where greater control over the setup process than the GUI installer provides is required.

On Linux and UNIX operating systems, if you embed the DB2 installation image in your own application, it is possible for your application to receive installation progress information and CD location prompts from the installer in computer-readable form.

Response file installation

A response file is a text file that contains setup and configuration values. The file is read by the DB2 setup program and the installation is performed according to the values that have been specified. There are a number of ways to create a response file:

- Using the response file generator (Windows)
- Using the DB2 Setup wizard
- Customizing the sample response files that are provided for each DB2 product

Using the response file generator, you can create a response file that replicates an existing installation. For example, you might install a DB2 client, fully configure the client, then generate a response file to replicate the installation and configuration of the client to other computers. The response file generator is available only on Windows.

The DB2 Setup wizard can create a response file based on the selections you make as you proceed through the DB2 Setup wizard. Your selections are recorded in a response file that you can save to a location on your system. If you select a partitioned database installation, two response files will be generated, one for the instance-owning computer and one for participating computers.

You can export a client or server profile with the `db2cfexp` command to save your client or server configuration, and then easily import the profile using the `db2cfimp` command. A client or server profile exported with the `db2cfexp` command can also be imported during a silent installation using the `CLIENT_IMPORT_PROFILE` keyword.

For your convenience, you can create a response file without performing an installation. This feature can be useful in an environment where a DBA does not have the authority required to perform an installation. The DBA can create a response file for the installation and provide it to the system administrator who installs the product on the DBA's behalf. On Linux and UNIX, you need root authority to generate a response file.

An alternative to using the response file generator or the DB2 Setup wizard to create a response file is to manually modify a sample response file. Sample response files are provided on the DB2 product CD. The sample response files provide details about all the valid keywords for each product. They also provide access to parameters that cannot be set using the DB2 Setup wizard.

On Linux and UNIX operating systems, if you embed the DB2 installation image in your own application, it is possible for your application to receive installation progress information and CD location prompts from the installer in computer-readable form.

Manual installation (Linux and UNIX only)

This method is an advanced installation method that is not recommended for most users. It requires the user to manually install payload files. A payload file is a compressed tarball that contains all of the files and metadata for an installable component.

Related tasks:

- “Embedding the DB2 installation image (Linux and UNIX)” in *Installation and Configuration Supplement*
- “Installing a DB2 product manually” in *Installation and Configuration Supplement*
- “Manually installing payload files (Linux and UNIX)” in *Installation and Configuration Supplement*
- “Response file installation of DB2 overview (Linux and UNIX)” in *Installation and Configuration Supplement*
- “Response file installation of DB2 overview (Windows)” in *Installation and Configuration Supplement*

Related reference:

- “db2_install - Install DB2 product command” in *Command Reference*
- “db2cfexp - Connectivity configuration export tool command” in *Command Reference*
- “db2cfimp - Connectivity configuration import tool command” in *Command Reference*
- “db2rspgn - Response file generator command (Windows)” in *Command Reference*
- “db2setup - Install DB2 command” in *Command Reference*

Supported combinations of client and server versions

This section describes which versions of a client can connect to which versions of a server. This includes support for earlier versions and support for accessing DB2 databases on midrange and mainframe servers. For the most up-to-date information, see <http://www.ibm.com/software/data/db2/udb/sysreqs.html>

Note: For a Common Criteria environment, only DB2 Version 9.1 Enterprise Server Edition for Linux, UNIX, and Windows, and DB2 Version 9.1 clients are supported.

Combinations of DB2 UDB Version 8 and DB2 Version 9:

DB2 UDB Version 8 is compatible with DB2 Version 9. That is, clients from either version can access a remote server of either version. Note the following restrictions:

- There is a restriction when a DB2 client is located on the same system as a DB2 server, and they are different versions. In this case, local client-to-server connections using Interprocess Communication (IPC) are not supported. Instead, a connection can be established by treating the connection as a remote connection (called a loopback connection) using TCP/IP.

Access to DB2 Version 9 servers from DB2 UDB Version 7 clients:

Access from DB2 UDB Version 7 clients is supported but with the same restrictions as for accessing DB2 UDB Version 8 servers. Restrictions that apply to all DB2 UDB Version 7 clients include:

- DB2 UDB Version 7 clients support only SQL requests on a DB2 Version 9 server. There is no support for utility or API requests.

Additional restrictions that apply to 32-bit DB2 UDB Version 7 clients include:

- 32-bit DB2 UDB Version 7 clients support only connections to DB2 on Windows. There is no support for connecting to DB2 on other operating systems. To overcome this restriction, use a 32-bit DB2 Connect gateway.

Additional restrictions that apply to 64-bit DB2 UDB Version 7 clients include:

- 64-bit DB2 UDB Version 7 clients support only connections to DB2 on operating systems other than Windows.

Combinations of DB2 Version 9 and DB2 products on midrange and mainframe platforms:

DB2 Version 9 for Linux, UNIX, and Windows *servers* support access from the following DB2 *clients* on midrange and mainframe platforms:

- DB2 for z/OS Version 7 and Version 8.
- DB2 for iSeries Version 5.
- DB2 for VM and VSE Version 7.

DB2 Version 9 for Linux, UNIX, and Windows clients can access the following earlier versions of DB2 Connect:

- DB2 Connect Version 8.

DB2 Connect Personal Edition Version 9 can connect to the same DB2 server versions as can DB2 Version 9 clients or servers.

Related concepts:

- “About the Release Notes” in *Release Notes*
- “Client-to-server communications configuration overview” in *Quick Beginnings for DB2 Clients*
- “DB2 client setup overview” in *Quick Beginnings for DB2 Clients*
- “Types of clients - DB2 Runtime Client and DB2 Client” in *Quick Beginnings for DB2 Clients*
- “Version 9 incompatibilities with previous releases and changed behaviors” in *Administration Guide: Planning*

An overview of installing your DB2 product (Windows)

This topic outlines the steps for installing your DB2 server product on Windows.

Procedure:

To install your DB2 server product on Windows:

1. Review your DB2 product prerequisites accessible from the DB2 Setup wizard Launchpad.
2. Review DB2 migration information if applicable.
3. Install your DB2 product using the DB2 Setup wizard. DB2 Setup wizard features include:
 - A launchpad from which you can view installation notes, product prerequisites, and release notes, and learn about DB2 Version 9 features.

- Selecting DB2 installation type (typical, compact, or custom).
- Selecting DB2 product installation location.
- Setting up database partitioning options.
- Setting the DB2 copy name.
- Enabling Extended Security.
- Setting the user interface and product messages. The user interface and product messages are available in several languages and are installed in the languages that you choose. By installing multiple languages, you can view the interface and messages in your preferred languages.
- Setting up the DB2 Administration Server (including DAS user setup).
- Setting up Administration contact and health monitor notification.
- Setting up and configuring your instance setup and configuration (including instance user setup).
- Preparing the DB2 tools catalog.
- Creating response files; you can save your installation choices in a response file for later installation, or to duplicate the installation on another computer, or to add another participating computer in a partitioned database environment.

Related concepts:

- “Migration to DB2 Version 9” in *Migration Guide*

Related tasks:

- “Notification and contact list setup and configuration” in *Administration Guide: Implementation*
- “Tools catalog database and DB2 administration server (DAS) scheduler setup and configuration” in *Administration Guide: Implementation*
- “Installing DB2 servers (Windows)” on page 51

Related reference:

- “setup - Install DB2 command” in *Command Reference*
- “UPDATE ADMIN CONFIGURATION command” in *Command Reference*
- “Disk and memory requirements” on page 9
- “Installation requirements for DB2 clients and servers (Windows)” on page 9
- “Required user accounts for installation of DB2 server products (Windows)” on page 12

An overview of installing your DB2 product (Linux and UNIX)

This topic outlines steps for installing your DB2 server product on AIX®, Linux, and Solaris Operating Environment.

Procedure:

To install your DB2 server product:

1. Review your DB2 product prerequisites.
2. Review DB2 migration information if applicable.
3. Modify kernel parameters on Linux and Solaris Operating Environment. On all platforms, the user must install a 64-bit kernel before proceeding with the installation, otherwise the installation will fail.

4. Install your DB2 product using the DB2 Setup wizard. DB2 Setup wizard features include:
 - A launchpad from which you can view installation notes and release notes, and learn about DB2 Version 9 features.
 - Selecting DB2 installation type (typical, compact, or custom).
 - Selecting DB2 product installation location.
 - Setting up database partitioning options for the DB2 instance.
 - Setting up the DB2 Administration Server (including DAS user setup).
 - Setting up Administration contact and health monitor notification.
 - Setting up and configuring your instance setup and configuration (including instance user setup).
 - Preparing the DB2 tools catalog.
 - Creating response files.

Related concepts:

- “Migration to DB2 Version 9” in *Migration Guide*

Related reference:

- “Installation requirements for DB2 clients and servers (AIX)” on page 18
- “Installation requirements for DB2 clients and servers (HP-UX)” in *Quick Beginnings for DB2 Servers*
- “Installation requirements for DB2 clients and servers (Linux)” on page 20
- “Installation requirements for DB2 clients and servers (Solaris Operating System)” on page 23
- “db2setup - Install DB2 command” in *Command Reference*

Chapter 2. Installation prerequisites

Disk and memory requirements

Disk requirements:

The disk space required for your product depends on the type of installation you choose and the type of file system you have. The DB2 Setup wizard provides dynamic size estimates based on the components selected during a typical, compact, or custom installation.

On Windows, you might require significantly more space on FAT (File Allocation Table) drives with large cluster sizes than with NTFS (New Technology File System) drives.

Remember to include disk space for required software and communication products.

Memory requirements:

At a minimum, a DB2 database system requires 256 MB of RAM. For a system running just DB2 and the DB2 GUI tools, a minimum of 512 MB of RAM is required. However, 1 GB of RAM is recommended for improved performance. These requirements do not include any additional memory requirements for other software that is running on your system.

When determining memory requirements, be aware of the following:

- For DB2 client support, these memory requirements are for a base of five concurrent client connections. You will need an additional 16 MB of RAM per five client connections.
- Memory requirements are affected by the size and complexity of your database system, as well as by the extent of database activity and the number of clients accessing your system.

In DB2 Version 9, the new self-tuning memory feature simplifies the task of memory configuration by automatically setting values for several memory configuration parameters. When enabled, the memory tuner dynamically distributes available memory resources among several memory consumers including sort, the package cache, the lock list and buffer pools.

- On Linux, swap space at least twice as large as RAM is recommended.

Related concepts:

- “Self tuning memory” in *Performance Guide*

DB2 server installation (Windows)

Installation requirements for DB2 clients and servers (Windows)

For the most up-to-date prerequisite information, see

- www.ibm.com/software/data/db2/udb/sysreqs.html.

To install a DB2 client or server product, the following operating system, software, and hardware prerequisites must be met:

Note: For a Common Criteria compliant installation, only Windows Server 2003 (64-bit) is supported.

Table 3. Windows installation prerequisites

Operating System	Service Pack	Hardware
Windows 2003 Standard Edition (32-bit and 64-bit)	Service Pack 1 or later	All Intel® and AMD processors capable of running the supported Windows operating systems (32-bit and 64-bit).
Windows 2003 Advanced Edition (32-bit and 64-bit)		
Windows 2003 Datacenter Edition (32-bit and 64-bit)		

Additional software considerations

- MDAC 2.8 is required. The DB2 Setup wizard will install MDAC 2.8 if it is not already installed.

Note: If a previous version of MDAC (for example, 2.7) is already installed, DB2 install will upgrade MDAC to 2.8. For a typical install, MDAC 2.8 is installed. For a compact install, MDAC 2.8 is not installed. For a custom install, MDAC 2.8 is installed but only if you have not deselected the default which is to install it. If you deselect MDAC as part of a custom install, it will not be installed.

- If you plan to use LDAP (Lightweight Directory Access Protocol), you should use either a Microsoft® LDAP client or the IBM® Tivoli® Directory Server v6 client (also known as the IBM LDAP client which is included with DB2). Prior to installation of the Microsoft Active Directory, you will need to extend your directory schema using the db2schex utility, which can be found on the installation media.

The Microsoft LDAP client is included with the operating system for Windows XP, and Windows Server 2003.

Note: LDAP is not supported in a Common Criteria environment.

- If you plan to use the Tivoli Storage Manager facilities for the backup and restoration of your databases, you need the Tivoli Storage Manager Client Version 4.2.0 or later.
 - For Windows 64-bit operating systems, you require the TSM client API Version 5.1.
- If you have the IBM Antivirus program installed on your operating system, it must be disabled or uninstalled to complete a DB2 installation.
- TCP/IP support must be enabled to view online help.
- One of the following browsers is required to view online help, run the DB2 install launchpad (setup.exe), and to run First Steps (db2fs):
 - Internet Explorer 5.5 and up
 - Mozilla 1.4 and up
 - Firefox 1.0 and up
 - Netscape 7.0 and up

Related concepts:

- “Support changes for 32-bit and 64-bit DB2 servers” in *Migration Guide*

Related tasks:

- “An overview of installing your DB2 product (Windows)” on page 6

Related reference:

- “IBM Software Development Kit for Java levels for DB2 products” on page 29
- “Communication protocols supported” in *Quick Beginnings for DB2 Clients*

DB2 services running on your system (Windows)

The following table lists the DB2 services that run on your system when DB2 9.1 is installed. In the table, *db2copyname* is the DB2 copy name.

Table 4. DB2 Services

Service Display Name	Service Name	Description
DB2 - (<i>db2copyname</i>) - <instance name>	<instance name>	Allows applications to create, update, control, and manage relational databases.
DB2 Governor (<i>db2copyname</i>)	DB2GOVERNOR _db2copyname	Collects statistics for applications connected to DB2 databases.
DB2 Information Center Server V9.1	DB2ICSERVER_V91	Provides documentation for DB2 Universal Database™ and related DB2 products.
DB2 License Server (<i>db2copyname</i>)	DB2LICD _db2copyname	Monitors DB2 license compliance.
DB2 Management Service (<i>db2copyname</i>)	DB2MGMTSVC _db2copyname	Manages DB2 registry entries for backward compatibility purposes for the DB2 copy.
DB2 Query Patroller (<i>db2copyname</i>)	DB2QP _db2copyname	DB2 Query Patroller
DB2 Remote Command Server (<i>db2copyname</i>)	DB2REMOTECMD _db2copyname	Supports remote DB2 command execution.
DB2 Security Server (<i>db2copyname</i>)	DB2NTSECSEVER _db2copyname	Authenticates DB2 database users when the authentication is performed at the client computer.
DB2DAS - DB2DASXX	DB2DASXX (where XX is 00-99)	Supports local and remote database administrative requests.

Related tasks:

- “An overview of installing your DB2 product (Windows)” on page 6

Related reference:

- “Installation requirements for DB2 clients and servers (Windows)” on page 9

Required user accounts for installation of DB2 server products (Windows)

If you are installing a DB2 server product on Windows, you require the following user accounts:

- An installation user account and
- One or more setup user accounts.
 - A DB2 Administration Server (DAS) user account
 - A DB2 instance user account.

The installation user account is the account of the user performing the installation. The installation user account must be defined prior to running the DB2 Setup wizard. The setup user accounts can be defined prior to installation or you can have the DB2 Setup wizard create them for you.

Note: For a Common Criteria compliant installation, the setup user accounts must be defined before installation.

All user account names must adhere to your system naming rules and to DB2 naming rules.

Extended security on Windows:

Note: Extended Windows security is not supported in a Common Criteria environment.

DB2 products offer extended Windows security. You can install DB2 with a user ID, but unless that user ID belongs to either the DB2ADMNS or DB2USERS group, that user ID won't be able to run any DB2 commands.

The DB2 installer creates these two new groups. You can either specify a new name during a custom installation or accept the default names.

To enable this security feature, select the **Enable operating system security** check box on the **Enable operating system security for DB2 objects** panel during the DB2 installation. Accept the default values for the DB2 Administrators Group field, and the DB2 Users Group field. The default group names are DB2ADMNS and DB2USERS. If there is a conflict with existing group names, you will be prompted to change the group names. If required, you can specify your own values.

DB2 server user accounts:

Installation user account

A local or domain user account is required to perform the installation. Normally, the user account must belong to the *Administrators* group on the machine where you will perform the installation.

The user right "Access this computer from the network" is required for the installation user account.

For domain accounts, to verify user IDs on the DB2 server, the installation user ID must belong to the Domain Administrators group on the domain where the accounts are going to be created.

User rights granted by the DB2 installer:

The DB2 installation program does not grant the Debug Programs user right. The DB2 installer grants the following user rights:

- Act as part of the operating system
- Create token object
- Lock pages in memory
- Log on as a service
- Increase quotas
- Replace a process level token

DB2 Administration Server (DAS) user account

A local or domain user account is required for the DB2 Administration Server (DAS).

If you are performing a response file installation, you can also specify the Local System account in the response file. For more details, refer to the sample response files in the db2\windows\samples directory.

The DB2 Administration Server (DAS) is a special DB2 administration service used to support the GUI tools and assist with administration tasks on local and remote DB2 servers. The DAS has an assigned user account that is used to log the DAS service on to the computer when the DAS service is started.

You can create the DAS user account before installing DB2 or you can have the DB2 Setup wizard create it for you. If you want to have the DB2 Setup wizard create a new domain user account, the user account you use to perform the installation must have authority to create domain user accounts. The user account must belong to the *Administrators* group on the machine where you will perform the installation. This account will be granted the following user rights:

- Act as part of the operating system
- Debug programs
- Create token object
- Lock pages in memory
- Log on as a service
- Increase quotas (adjust memory quotas for a process on Windows XP and Windows Server 2003 operating systems)
- Replace a process level token

If extended security is enabled, then the DB2ADMNS group will have all these privileges. You can simply add users to that group and you do not need to add these privileges explicitly. However, the user still needs to be a member of the Local Administrators group.

The Lock pages in memory privilege is required for AWE (Advanced Windowing Extensions) support. The "Debug programs" privilege is only needed when DB2 group lookup is explicitly specified to use the access token.

If the user account is created by the install program, the user account will be granted these privileges and if the user account already exists, this account will also be granted these privileges. If the install grants the privileges, some of them will only be effective on first log-on by the account that was granted the privileges or upon reboot.

It is recommended that the DAS user have SYSADM authority on each of the DB2 systems within your environment so that it can start or stop other instances if required. By default, any user that is part of the *Administrator* group has SYSADM authority.

DB2 instance user account

The user account must belong to the *Administrators* group on the machine where you will perform the installation.

A local or domain user account is required for the DB2 instance. Every DB2 instance has one user that is assigned when the instance is created. DB2 logs on with this user name when the instance is started.

You can create the DB2 instance user account before installing DB2 or you can have the DB2 Setup wizard create it for you. If you want to have the DB2 Setup wizard create a new domain user account, the user account you use to perform the installation must have authority to create domain user accounts. This account will be granted the following user rights:

- Act as part of the operating system
- Debug programs
- Create token object
- Increase quotas
- Lock pages in memory
- Log on as a service
- Replace a process level token

If extended security is enabled, then the DB2ADMNS group will have all these privileges. You can simply add users to that group and you do not need to add these privileges explicitly. However, the user still needs to be a member of the Local Administrators group.

The Lock pages in memory privilege is required for AWE (Advanced Windowing Extensions) support. The "Debug programs" privilege is only needed when DB2 group lookup is explicitly specified to use the access token.

If the user account is created by the install program, the user account will be granted these privileges and if the user account already exists, this account will also be granted these privileges. If the install grants the privileges, some of them will only be effective on first log-on by the account that was granted the privileges or upon reboot.

Related concepts:

- "User, user ID and group naming rules" in *Administration Guide: Implementation*

Related tasks:

- "An overview of installing your DB2 product (Windows)" on page 6
- on page 0

Preparing the environment for a partitioned DB2 server (Windows)

This topic describes the steps required to prepare your Windows environment for a partitioned installation of the DB2 product.

Restrictions:

Each participating computer must have the same operating system. For example, you cannot have a partitioned database system that includes both Windows 2000 and Windows Server 2003 operating systems.

Procedure:

To prepare your Windows environment for installation:

1. Ensure that the primary computer and participating computers belong to the same Windows domain. Check the domain to which the computer belongs by using the System Properties dialog, accessible through the Control Panel.
2. Ensure that time and date settings on the primary computer and participating computers are consistent. To be considered consistent, the difference in GMT time between all computers must be no greater than one hour.

System date and time can be modified using the Date/Time Properties dialog, accessible through the Control Panel. You can use the `max_time_diff` configuration parameter to change this restriction. The default is `max_time_diff = 60`, which allows a difference of less than 60 minutes.

3. Ensure that each computer object that participates in the partitioned database environment has the "Trust computer for delegation" privilege flagged.
4. Ensure that all participating computers can communicate with each other using TCP/IP:

- a. On one participating computer, enter the `hostname` command, which will return the hostname of the computer.

- b. On another participating computer, enter the following command:

```
ping hostname
```

where *hostname* represents the hostname of the primary computer. If the test is successful, you will receive output similar to the following:

```
Pinging ServerA.ibm.com [9.21.27.230] with 32 bytes of data:
```

```
Reply from 9.21.27.230: bytes=32 time<10ms TTL=128
Reply from 9.21.27.230: bytes=32 time<10ms TTL=128
Reply from 9.21.27.230: bytes=32 time<10ms TTL=128
```

Repeat these steps until you are sure that all participating computers can communicate with each other using TCP/IP. Each computer must have a static IP address.

If you are planning to use multiple network adapters, you can specify which adapter to use to communicate between database partition servers. Use the `db2nchg` command to specify the `netname` field in the `db2nodes.cfg` file after the installation is complete.

5. During the installation you will be asked to provide a DB2 Administration Server user account. This is a local or domain user account that will be used by the DB2 Administration Server (DAS). The DAS is an administration service used to support the GUI tools and assist with administration tasks. You can define a user now or have the DB2 Setup wizard create one for you. If you want to create a new domain user using the DB2 Setup wizard, the account used to perform the installation must have authority to create domain users.
6. On the primary computer, where you will install the instance-owning partition, you must have a domain user account that belongs to the local *Administrators* group. You will log on as this user when you install DB2. You must add the

same user account to the local *Administrators* group on each participating computer. This user must have the *Act as part of the operating system* user right.

7. Ensure that all computers in the instance have the database directory on the same local drive letter.
8. During the installation you will be asked to provide a domain user account to be associated with the DB2 instance. Every DB2 instance has one user assigned. DB2 logs on with this user name when the instance is started. You can define a user now, or you can have the DB2 Setup wizard create a new domain user for you.

When adding a new node to a partitioned environment the DB2 copy name must be the same on all computers.

If you want to create a new domain user using the DB2 Setup wizard, the account used to perform the installation must have authority to create domain users. The instance user domain account must belong to the local *Administrators* group on all the participating computers and will be granted the following user rights:

- Act as part of the operating system
- Create token object
- Lock pages in memory
- Log on as a service
- Increase quotas
- Replace a process level token

The installation program grants all of these privileges except for the Debug programs privilege.

If extended security was selected, then the account must also be a member of the DB2ADMNS group. The DB2ADMNS group already has these privileges so the privileges would not be required to be added explicitly to the account.

Related reference:

- “db2nchg - Change database partition server configuration command” in *Command Reference*
- “Required user accounts for installation of DB2 server products (Windows)” on page 12

Granting user rights (Windows)

This topic describes the steps required to grant user rights on Windows operating systems. Specific user rights are recommended for user accounts required to install and set up DB2.

Prerequisites:

To grant advanced user rights on Windows you must be logged on as a local Administrator.

Procedure:

1. Click **Start** and select **Run ...**
2. Type `secpol.msc` and click **OK**.
3. Select **Local Security Policy**.
4. In the left window pane, expand the **Local Policies** object, then select **User Rights Assignment**.

5. In the right window pane, select the user right that you want to assign.
6. From the menu, select **Action** —> **Security...**
7. Click **Add**, then select a user or group to assign the right to, and click **Add**.
8. Click **OK**.

If your computer belongs to a Windows 2000 or Windows Server 2003 domain, the domain user rights may override your local settings. In this case, your Network Administrator will have to make the changes to the user rights.

Related concepts:

- “User, user ID and group naming rules” in *Administration Guide: Implementation*

Related reference:

- “Required user accounts for installation of DB2 server products (Windows)” on page 12

DB2 system administrator group considerations (Windows)

By default, system administrative (SYSADM) authority is granted to any valid DB2 user account that belongs to the Administrators group on the computer where the account is defined. If the account is a local account, then it must belong to the local Administrators group. If the account is a domain account, then it must belong to the Administrators group at the domain controller or the local Administrators group.

For example, if a user logs on to a domain account and tries to access a DB2 database, the DB2 database server goes to a domain controller to enumerate groups (including the Administrators group). You can force the DB2 database server to always perform group lookup on the local computer by setting the registry variable `DB2_GRP_LOOKUP=local` and adding the domain accounts (or global groups) to the local group.

For a domain user to have SYSADM authority, they must belong to the local Administrators group or the Administrators group at the domain controller. Since the DB2 database server always performs authorization at the machine where the account is defined, adding a domain user to the local Administrators group on the server does not grant the domain user SYSADM authority to this group.

To avoid adding a domain user to the Administrators group at the domain controller, create a global group and add the domain users to which you want to grant SYSADM authority to it. Then update the DB2 configuration parameter `SYSADM_GROUP` with the name of the global group.

To update the DB2 configuration parameter, enter the following commands:

```
db2 update dbm cfg using sysadm_group global_group
db2stop
db2start
```

Related concepts:

- “System administration authority (SYSADM)” in *Administration Guide: Implementation*

Related reference:

- “sysadm_group - System administration authority group name configuration parameter” in *Performance Guide*

Fast communications manager (Windows)

The fast communications manager (FCM) provides communications support for DB2 server products. Each database partition server has one FCM sender, and one FCM receiver daemon to provide communications between database partition servers to handle agent requests and to deliver message buffers. The FCM daemon is started when you start the instance.

If communications fail between database partition servers or if they re-establish communications, the FCM thread updates information (that you can query with the database system monitor) and causes the appropriate action (such as the rollback of an affected transaction) to be performed. You can use the database system monitor to help you set the FCM configuration parameters.

You can specify the number of FCM message buffers with the *fcm_num_buffers* database manager configuration parameter and the number of FCM channels with the *fcm_num_channels* database manager configuration parameter. The *fcm_num_buffers* and *fcm_num_channels* database manager configuration parameter are set to AUTOMATIC as the default value. FCM monitors resource usage when any of these parameter are set to automatic, and incrementally releases resources. It is recommended to leave these parameters set to AUTOMATIC.

Related tasks:

- “Setting up a partitioned database environment” on page 55
- “Verifying port range availability on participating computers (Windows)” on page 31

DB2 server installation (Linux and UNIX)

Installation requirements for DB2 clients and servers (AIX)

For the most up-to-date prerequisite information, see <http://www.ibm.com/software/data/db2/udb/sysreqs.html>.

To install a DB2 client or server product, the following operating system, hardware, and communications prerequisites must be met:

Table 5. AIX installation prerequisites

AIX Version	Operating System	Hardware
AIX Version 5.3.0	DB2 client is available using the 64-bit AIX kernel. DB2 Enterprise 9, for either single-partition or partitioned database environment, is available with the required 64-bit AIX kernel.	IBM RISC/6000

Software considerations:

- (Clients only:) If you plan to use Kerberos Authentication, you require IBM Network Authentication Service client v1.3 or later. The NAS client is provided with the AIX Bonus CD.

Note: Kerberos authentication is not supported in a Common Criteria environment.

- To use the DB2 Setup wizard to install DB2 on a Linux- or UNIX-based computer, X Window System software is required. If DB2 is being installed remotely, the X Window System software can be on either the target computer, or the computer from where the installation is being directed.
- Use the `bosboot` command to switch to the 64-bit kernel.

To switch to a 64-bit kernel, you require root authority and should enter the following commands:

```
ln -sf /usr/lib/boot/unix_64 /unix
ln -sf /usr/lib/boot/unix_64 /usr/lib/boot/unix
bosboot -a
shutdown -Fr
```

- DB2 Version 9 requires the “IBM C++ Runtime Environment Components for AIX” which includes `xlC.rte 8.0.0.4`. This is available from the IBM AIX support web site.
- One of the following browsers is required to view online help and to run First Steps (`db2fs`):
 - Mozilla 1.4 and up
 - Firefox 1.0 and up
 - Netscape 7.0 and up

DB2 product installation on NFS (Network File System):

The installation of DB2 products on NFS (Network File System) is not recommended. Running DB2 products on NFS (for example, NFS mounting `/opt/IBM/db2/V9.1` and then running off code that was physically installed on a remote system) requires several manual setup steps. There are also a number of potential issues with setting up NFS for DB2. These include possible problems that involve:

- Performance (impacted by network performance)
- Availability (you are allowing a single point of failure)
- Licensing (there is no checking done across machines)
- Diagnosing NFS errors can be difficult

As mentioned, the setup for NFS will require several manual actions including:

- Ensuring that the mount point preserve the install path
- Permission must be controlled (for example, write permission should not be given to the mounting machine)
- DB2 registries have to be set up manually and maintained across all mounting machines
- The list installed DB2 products and features command (`db2ls`) must be set up and maintained properly if you need to detect DB2 products and features
- More care is required when updating your DB2 product environment
- More steps are required when cleaning up on the exporting machine and the mounting machine

For detailed instructions, look for the “Setting Up DB2 on NFS Mounted File System” white paper which will be available soon after DB2 Version 9 is made available.

Related tasks:

- “An overview of installing your DB2 product (Linux and UNIX)” on page 7

Related reference:

- “IBM Software Development Kit for Java levels for DB2 products” on page 29
- “Communication protocols supported” in *Quick Beginnings for DB2 Clients*

Installation requirements for DB2 clients and servers (Linux)

For the most up-to-date prerequisite information, see <http://www.ibm.com/software/data/db2/udb/sysreqs.html>.

For the latest information on supported Linux distributions, point your browser to <http://www.ibm.com/db2/linux/validate>.

The supported operating systems for Linux include:

- Red Hat Enterprise Linux 4 (RHEL4) Update 2
- SUSE Linux Enterprise Server 9 (SLES9) Service Pack 2

To install a DB2 client or server product, the following distribution requirements, hardware, and communications prerequisites must be met:

Table 6. Linux prerequisites

Distribution Requirements	Hardware
<p>You should update your kernel configuration parameters in preparation for your Linux distribution. The default values for particular kernel parameters are not sufficient when running a DB2 database system.</p> <p>You may also have other products or applications that require Linux system resources. You should set the kernel configuration parameters based on the needs of your Linux system working environment.</p> <p>The kernel configuration parameters are set in <code>/etc/sysctl.conf</code>. See the Modifying kernel parameters (Linux) section of the DB2 Information Center.</p> <p>Refer to your operating system manual for information on setting and activating these parameters using the <code>sysctl</code> command.</p>	<p>For a Common Criteria compliant environment, DB2 server products are supported on AMD64- and Intel EM64T-based hardware.</p>

Package requirements (server only):

The following tables list the package requirements for SUSE Linux and Red Hat distributions for DB2 Version 9 partitioned servers.

- The `pdcksh` Korn Shell package is required for all DB2 systems.
- A remote shell utility is required for partitioned database systems. DB2 supports the following remote shell utilities:

- `rsh`

Note: For a Common Criteria compliant environment, `rsh` is used.

- `ssh`

By default, DB2 uses rsh when executing commands on remote DB2 nodes, for example, when starting a remote DB2 database partition. To use the DB2 default, the rsh-server package must be installed (see table below).

If you choose to use the rsh remote shell utility, inetd (or xinetd) must be installed and running as well.

- The nfs-utils Network File System support package is required for partitioned database systems.

All required packages should be installed and configured before continuing with the DB2 setup. For general Linux information, see your Linux distribution documentation.

Package requirements for SUSE Linux

Package name	Description
pdsh	Korn Shell. This package is required for partitioned database environments.
openssh	This package contains a set of server programs which allow users to run commands on (and from) remote computers via a secure shell. This package is not required if you use the default configuration of DB2 with rsh.
rsh-server	This package contains a set of server programs which allow users to run commands on remote computers, login in to other computers, and copy files between computers (rsh, rexec, rlogin, and rcp). This package is not required if you configure DB2 to use ssh.
nfs-utils	Network File System support package. It allows access to local files from remote computers.

Package requirements for Red Hat

Directory	Package name	Description
/System Environment/Shell	pdsh	Korn Shell. This package is required for partitioned database environments.
/Applications/Internet	openssh	This package contains a set of client programs which allow users to run commands on a remote computer via a secure shell. This package is not required if you use the default configuration of DB2 with rsh.
/System Environment/Daemons	openssh-server	This package contains a set of server programs which allow users to run commands from a remote computer via a secure shell. This package is not required if you use the default configuration of DB2 with rsh.
/System Environment/Daemons	rsh-server	This package contains a set of programs which allow users to run commands on a remote computer. Required for partitioned database environments. This package is not required if you configure DB2 to use ssh.
/System Environment/Daemons	nfs-utils	Network File System support package. It allows access to local files from remote computers.

Software considerations:

- One of the following browsers is required to view online help and to run First Steps (db2fs):
 - Mozilla 1.4 and up
 - Firefox 1.0 and up
 - Netscape 7.0 and up
- To use the DB2 Setup wizard to install DB2 on a Linux- or UNIX-based computer, X Window System software is required. If DB2 is being installed remotely, the X Window System software can be on either the target computer, or the computer from where the installation is being directed.

DB2 product installation on NFS (Network File System):

The installation of DB2 products on NFS (Network File System) is not recommended. Running DB2 products on NFS (for example, NFS mounting /opt/IBM/db2/V9.1 and then running off code that was physically installed on a remote system) requires several manual setup steps. There are also a number of potential issues with setting up NFS for DB2. These include possible problems that involve:

- Performance (impacted by network performance)
- Availability (you are allowing a single point of failure)
- Licensing (there is no checking done across machines)
- Diagnosing NFS errors can be difficult

As mentioned, the setup for NFS will require several manual actions including:

- Ensuring that the mount point preserve the install path
- Permission must be controlled (for example, write permission should not be given to the mounting machine)
- DB2 registries have to be set up manually and maintained across all mounting machines
- The list installed DB2 products and features command (db2ls) must be set up and maintained properly if you need to detect DB2 products and features
- More care is required when updating your DB2 product environment
- More steps are required when cleaning up on the exporting machine and the mounting machine

For detailed instructions, look for the “Setting Up DB2 on NFS Mounted File System” white paper which will be available soon after DB2 Version 9 is made available.

Related concepts:

- “Security issues when installing the DB2 database manager” in *Administration Guide: Implementation*

Related tasks:

- “Modifying kernel parameters (Linux)” on page 32
- “Preparing to install DB2 for Linux on zSeries” in *Quick Beginnings for DB2 Servers*

Related reference:

- “Communication protocols supported” in *Quick Beginnings for DB2 Clients*

- “IBM Software Development Kit for Java levels for DB2 products” on page 29
- “Communications variables” in *Performance Guide*

Installation requirements for DB2 clients and servers (Solaris Operating System)

For the most up-to-date prerequisite information, see <http://www.ibm.com/software/data/db2/udb/sysreqs.html>.

To install a DB2 client or server product, the following operating system, hardware, and communications prerequisites must be met:

Table 7. Solaris Operating System installation prerequisites

Operating System	Hardware
DB2 client and server products are supported on the following Solaris Operating System versions: <ul style="list-style-type: none"> • Solaris 9 The following patches are also required: <ul style="list-style-type: none"> – 111711-12 – 111712-12 	Solaris UltraSPARC-based computer

Kernel configuration considerations:

A system restart is required if you update the kernel configuration parameters. The kernel configuration parameters are set in `/etc/system` and if these parameters require modification to accommodate the DB2 client, a reboot is necessary to make the changes to `/etc/system` effective. These parameters must be set before you install a DB2 client.

Software considerations:

- (Clients only:) If you plan to use Kerberos Authentication, you require Solaris Operating System 9 or higher with IBM Network Authentication Service (NAS) client v1.4 or higher. The NAS client can be downloaded from Web site: <https://www6.software.ibm.com/dl/dm/dm-nas-p>.

Note: Kerberos is not supported in a Common Criteria environment.

- One of the following browsers is required to view online help and to run First Steps (db2fs):
 - Mozilla 1.4 and up
 - Firefox 1.0 and up
 - Netscape 7.0 and up
- To use the DB2 Setup wizard to install DB2 on a Linux- or UNIX-based computer, X Window System software is required. If DB2 is being installed remotely, the X Window System software can be on either the target computer, or the computer from where the installation is being directed.

“Recommended & Security Patches” can be obtained from the <http://sunsolve.sun.com> Web site. From the SunSolve Online Web site, click on the “Patches” menu item in the left panel.

The Java™2 Standard Edition (J2SE) Solaris Operating System Patch Clusters and the SUNWlibC software are also required and can be obtained from the <http://sunsolve.sun.com> Web site.

For DB2 on 64-bit Fujitsu PRIMEPOWER systems, you require the following:

- Solaris 9 Kernel Update Patch 112233-01 or later to get the fix for patch 912041-01.

The Fujitsu PRIMEPOWER patches for the Solaris Operating System can be downloaded from FTSI at: <http://download.ftsi.fujitsu.com/>.

DB2 product installation on NFS (Network File System):

The installation of DB2 products on NFS (Network File System) is not recommended. Running DB2 products on NFS (for example, NFS mounting /opt/IBM/db2/V9.1 and then running off code that was physically installed on a remote system) requires several manual setup steps. There are also a number of potential issues with setting up NFS for DB2. These include possible problems that involve:

- Performance (impacted by network performance)
- Availability (you are allowing a single point of failure)
- Licensing (there is no checking done across machines)
- Diagnosing NFS errors can be difficult

As mentioned, the setup for NFS will require several manual actions including:

- Ensuring that the mount point preserve the install path
- Permission must be controlled (for example, write permission should not be given to the mounting machine)
- DB2 registries have to be set up manually and maintained across all mounting machines
- The list installed DB2 products and features command (db2ls) must be set up and maintained properly if you need to detect DB2 products and features
- More care is required when updating your DB2 product environment
- More steps are required when cleaning up on the exporting machine and the mounting machine

For detailed instructions, look for the “Setting Up DB2 on NFS Mounted File System” white paper which will be available soon after DB2 Version 9 is made available.

Related tasks:

- “Modifying kernel parameters (Solaris Operating Environment)” on page 34

Related reference:

- “Communication protocols supported” in *Quick Beginnings for DB2 Clients*
- “IBM Software Development Kit for Java levels for DB2 products” on page 29

Listing DB2 products installed on your system (Linux and UNIX)

With the ability to install multiple copies of DB2 products on your system and the flexibility to install DB2 products and features in the path of your choice, you need a tool to help you keep track of what is installed and where it is installed. On supported Linux and UNIX operating systems, the db2ls command lists the DB2 products and features installed on your system, including the DB2 Version 9 HTML documentation.

The `db2ls` command can be used to list:

- where DB2 products are installed on your system and list the DB2 product level
- all or specific DB2 products and features in a particular installation path

Prerequisites:

At least one DB2 Version 9 product must already be installed for a symbolic link to the `db2ls` command to be available in `/usr/local/bin` directory.

Restrictions:

The `db2ls` command is the only method to query a DB2 product. You *cannot* query DB2 products using Linux or UNIX operating system native utilities. Any existing scripts containing a native installation utility that you use to interface and query with DB2 installations will need to change.

You *cannot* use the `db2ls` command on Windows operating systems.

Procedure:

To list the path where DB2 products are installed on your system and list the DB2 product level, enter:

```
db2ls
```

The command lists the following information for each DB2 product installed on your system:

- Installation path
- Level
- Fix pack
- Installation date listing when the DB2 product was last modified.

To list information about DB2 products or features in a particular installation path the `q` parameter must be specified:

```
db2ls -q -b baseInstallDirectory
```

where

- `q` specifies you are querying a product or feature. This parameter is mandatory. If a DB2 Version 8 product is queried, a blank value is returned.
- `b` specifies the installation directory of the product or feature. This parameter is mandatory if you are not running the command from the installation directory.

Depending on the parameters provided, the command lists the following information:

- Installation path. This is specified only once, not for each feature.
- The following information is displayed:
 - Response file ID for the installed feature, or if the `p` option is specified, the response file ID for the installed product. For example `ENTERPRISE_SERVER_EDITION`.
 - Feature name, or if the `p` option is specified, product name.
 - Product version, release, modification level, fix pack level (VRMF). For example, `9.1.0.0`
 - Fix pack, if applicable. For example, if fix pack 1 is installed, the value displayed is 1. This includes interim fix packs, such as fix pack 1a.

- If any of the product's VRMF information do not match, a warning message displays at the end of the output listing. The message suggests the fix pack to apply.

Related concepts:

- "Multiple DB2 copies on the same computer (Linux and UNIX)" in *Installation and Configuration Supplement*

Related tasks:

- "Installing a DB2 product using the db2_install or doce_install command (Linux and UNIX)" in *Installation and Configuration Supplement*
- "Removing DB2 products using the db2_deinstall or doce_deinstall command (Linux and UNIX)" in *Quick Beginnings for DB2 Servers*
- "Using the Default DB2 Selection wizard (Windows)" in *Quick Beginnings for DB2 Servers*

Related reference:

- "db2ls - List installed DB2 products and features command" in *Command Reference*
- "Multiple DB2 copies roadmap" in *Administration Guide: Implementation*

Fast communications manager (Linux and UNIX)

The fast communications manager (FCM) provides communications support for DB2 server products. Each database partition server has one FCM sender, and one FCM receiver daemon to provide communications between database partition servers to handle agent requests and to deliver message buffers. The FCM daemon is started when you start the instance.

If communications fail between database partition servers or if they re-establish communications, the FCM daemons updates information (that you can query with the database system monitor) and cause the appropriate action (such as the rollback of an affected transaction) to be performed. You can use the database system monitor to help you set the FCM configuration parameters.

You can specify the number of FCM message buffers with the *fcm_num_buffers* database manager configuration parameter and the number of FCM channels with the *fcm_num_channels* database manager configuration parameter. The *fcm_num_buffers* and *fcm_num_channels* database manager configuration parameter are set to AUTOMATIC as the default value. FCM monitors resource usage when any of these parameter are set to automatic, and incrementally releases resources. It is recommended to leave these parameters set to AUTOMATIC.

Related tasks:

- "Enabling communications between database partition servers (Linux and UNIX)" on page 250
- "Setting up a partitioned database environment" on page 55

DB2 users and groups (Linux and UNIX)

The DB2 Setup wizard creates the following users and groups automatically (if needed) during the installation of your DB2 product. If you are using the DB2 Setup wizard, you do not need to manually create these users and groups.

Note: In a Common Criteria compliant environment, these users and groups must be created prior to installing DB2.

Three users and three groups are used to operate DB2 on Linux and UNIX.

Instance owner

The DB2 instance is created in the instance owner home directory. This user ID controls all DB2 processes and owns all filesystems and devices used by the databases contained within the instance. The default user is `db2inst1` and the default group is `db2iadm1`.

When using the DB2 Setup wizard, the default action is to create a new user for your DB2 instance. The default name is `db2inst1` – if that user name already exists, DB2 will try to create another user name, `db2inst2`. If that user name also exists, DB2 will keep searching through user names `db2inst3`, `db2inst4`, and so on until it identifies the first user name that is not already an existing user on the system as the default instance owner ID. If you choose to proceed this user would be created by DB2. However, you also have a choice to specify any existing user as the instance owner.

This method for user name creation also applies to the creation of fenced users and DB2 administration server users.

Fenced user

The fenced user is used to run user defined functions (UDFs) and stored procedures outside of the address space used by the DB2 database. The default user is `db2fenc1` and the default group is `db2fadm1`. If you do not need this level of security, for example in a test environment, you may use your instance owner as your fenced user.

DB2 administration server user

The user ID for the DB2 administration server user is used to run the DB2 administration server on your system. Default user is `dasusr1` and default group is `dasadm1`. This user ID is also used by the DB2 GUI tools to perform administration tasks against the local server database instances and databases.

This user does not contain any databases and there is only one administration server per machine. For example, one administration server can service multiple database instances.

Related tasks:

- “Creating required users for a DB2 server installation in a partitioned database environment (AIX)” on page 46
- “Creating required users for a DB2 server installation in a partitioned database environment (HP-UX)” in *Quick Beginnings for DB2 Servers*
- “Creating required users for a DB2 server installation in a partitioned database environment (Linux)” on page 47
- “Creating required users for a DB2 server installation in a partitioned database environment (Solaris Operating Environment)” on page 49

Centralized user-management considerations (Linux and UNIX)

In environments that include security software, such as NIS (Network Information Services) or NIS+, there are some installation considerations. The DB2 installation

scripts attempt to update objects that are under the control of the security packages, such as users and groups, and will not be able to do so if NIS or NIS+ is being used for user management.

At instance creation, without a security component present, instance owner's group list is modified to include that of the database administrative server (DAS) user's primary group, if the DAS is created. If the instance creation program is unable to modify these properties (it will not if NIS/NIS+ is controlling the group), it reports that it could not. The warning message provides the necessary information to manually make the changes.

These considerations hold true for any environment in which an external security program does not allow the DB2 installation or instance creation programs to modify user characteristics.

If the DB2 Setup wizard detects NIS on your computer, you are not given the option of creating new users during the installation. Instead, you must choose existing users.

Consider the following restrictions if you are using NIS or NIS+:

- Groups and users must be created on the NIS server before running the DB2 Setup wizard.
- Secondary groups must be created for the DB2 instance owner and the DB2 Administration Server on the NIS server. You must then add the primary group of the instance owner to the secondary DB2 Administration Server group. Likewise, you must add the primary DB2 Administration Server group to the secondary group for the instance owner.
- On a partitioned DB2 database system, before you create an instance, there must be an entry for the instance in the `etc/services` file. For example, if you want to create an instance for the user `db2inst1`, you require an entry similar to the following:

```
DB2_db2inst1    50000/tcp
```

Related tasks:

- "Installing DB2 servers (Linux and UNIX)" on page 53

Related reference:

- "Installation requirements for DB2 clients and servers (AIX)" on page 18
- "Installation requirements for DB2 clients and servers (HP-UX)" in *Quick Beginnings for DB2 Servers*
- "Installation requirements for DB2 clients and servers (Linux)" on page 20
- "Installation requirements for DB2 clients and servers (Solaris Operating System)" on page 23

Chapter 3. Before you install

IBM Software Development Kit for Java levels for DB2 products

You require the appropriate level of IBM Software Development Kit (SDK) for Java listed below to use Java-based tools and to create and run Java applications, including stored procedures and user-defined functions.

If the IBM SDK for Java is required by a component being installed and the SDK for Java is not already installed in that path, the SDK for Java will be installed if you use either the DB2 Setup wizard or a response file to install the product.

The SDK for Java is not installed with the DB2 Runtime client.

The following table lists the installed SDK for Java levels for DB2 according to operating system platform:

Operating System Platform	SDK for Java level
Windows x86	SDK 5 Service Release 1
Windows x64	SDK 5 Service Release 1
Windows IA64	SDK 1.4.2 Service Release 3
AIX 5	SDK 5 Service Release 1
Solaris Operating Environment	SDK 1.4.2_07
Linux on x86	SDK 5 Service Release 1
Linux on IPF	SDK 1.4.2 Service Release 3
Linux on AMD64/EM64T	SDK 5 Service Release 1
Linux on POWER	SDK 5 Service Release 1

Notes:

1. With the exception of Linux on IPF, Solaris Operating Environment, and Windows IA64, although the table above lists the installed SDK for Java levels, SDK 1.4.2 to SDK 5 is also supported. The SDK for Java levels can be downloaded from the developerWorks® web page at: <http://www.ibm.com/developerworks/java/jdk/index.html>

Note: For Windows operating system platforms, use the IBM Development Package for Eclipse downloads.

2. On Windows x86 and Linux on x86:
 - the 32-bit SDK is installed
 - 32-bit applications and Java external routines are supported
3. On Linux on IPF:
 - only 64-bit applications and Java external routines are supported
4. On all supported platforms (except Windows x86, Linux on x86, and Linux on IPF):
 - 32-bit applications are supported
 - 32-bit Java external routines are not supported
 - 64-bit applications and Java external routines are supported

Related tasks:

- “Installing DB2 servers (Linux and UNIX)” on page 53
- “Installing DB2 servers (Windows)” on page 51

Creating group and user IDs for a DB2 database installation (Linux and UNIX)

Three users and groups are required.

The DB2 Setup wizard will create these users and groups for you during the installation process. If you want, you can create them ahead of time.

Note: In a Common Criteria compliant installation, these required users and groups must be created before installing DB2.

The user and group names used in the following instructions are documented in the table below. You can specify your own user and group names as long as they adhere to system naming rules and DB2 naming rules.

The user IDs you create will be required to complete subsequent setup tasks.

Table 8. Default users and groups

User	Example user name	Example group name
Instance owner	db2inst1	db2iadm1
Fenced user	db2fenc1	db2fadm1
DB2 administration server user	dasusr1	dasadm1

- The instance owner home directory is where the DB2 instance will be created.
- The fenced user is used to run user defined functions (UDFs) and stored procedures outside of the address space used by the DB2 database.
- The user ID for the *DB2 administration server user* is used to run the DB2 administration server on your system.

Prerequisites:

You must have root authority to create users and groups.

Procedure:

To create the required groups and user IDs for DB2:

1. Log in as a user with root authority.
2. Enter the appropriate commands for your operating system.

Note: These command line examples do not contain passwords. They are examples only. You can use the *passwd username* parameter from the command line to set the password.

AIX To create groups on AIX, enter the following commands:

```
mkgroup id=999 db2iadm1
mkgroup id=998 db2fadm1
mkgroup id=997 dasadm1
```

Create users for each group:

```
mkuser id=1004 pgrp=db2iadm1 groups=db2iadm1
  home=/home/db2inst1 db2inst1
mkuser id=1003 pgrp=db2fadm1 groups=db2fadm1
  home=/home/db2fenc1 db2fenc1
mkuser id=1002 pgrp=dasadm1 groups=dasadm1
  home=/home/dasusr1 dasusr1
```

Linux To create groups on Linux, enter the following commands:

```
groupadd -g 999 db2iadm1
groupadd -g 998 db2fadm1
groupadd -g 997 dasadm1
```

Create users for each group:

```
useradd -u 1004 -g db2iadm1 -m -d /home/db2inst1 db2inst1
useradd -u 1003 -g db2fadm1 -m -d /home/db2fenc1 db2fenc1
useradd -u 1002 -g dasadm1 -m -d /home/dasusr1 dasusr1
```

Solaris

To create groups on Solaris, enter the following commands:

```
groupadd -g 999 db2iadm1
groupadd -g 998 db2fadm1
groupadd -g 997 dasadm1
```

Create users for each group:

```
useradd -g db2iadm1 -u 1004 -d /export/home/db2inst1 -m db2inst1
useradd -g db2fadm1 -u 1003 -d /export/home/db2fenc1 -m db2fenc1
useradd -g dasadm1 -u 1002 -d /export/home/dasusr1 -m dasusr1
```

Related concepts:

- “General naming rules” in *Administration Guide: Implementation*

Related tasks:

- “Installing a DB2 product manually” in *Installation and Configuration Supplement*

Verifying port range availability on participating computers (Windows)

This task describes the steps required to verify port range availability on participating computers. The port range is used by the Fast Communications Manager (FCM). FCM is a feature of DB2 that handles communications between database partition servers.

When you install the instance-owning database partition server on the primary machine, DB2 reserves a port range according to the specified number of database partition servers participating in partitioned database environment. The default range is four ports. The DB2 Setup wizard must be able to reserve an identical port range when database partition servers are installed on participating computers; the port range needs to be free on each of the database partition servers.

This task should be done after you install the instance-owning database partition server and before you install any participating database partition servers.

Procedure:

To verify the port range availability on participating computers:

1. Open the services file. The default location of the services file is in the %SystemRoot%\system32\drivers\etc directory, where %SystemRoot% is your Windows root directory.
2. Locate the ports reserved for the DB2 Fast Communications Manager (FCM). The entries should appear similar to the following:

```
DB2_DB2          60000/tcp
DB2_DB2_1       60001/tcp
DB2_DB2_2       60002/tcp
DB2_DB2_END     60003/tcp
```

DB2 reserves the first four available ports after 60000.

3. On each participating computer, open the services file and verify that the ports reserved for DB2 FCM in the services file of the primary computer are not being used.
4. In the event that the required ports are in use on a participating computer, identify an available port range for all computers and update each service file, including the services file on the primary computer.

Related concepts:

- “Fast communications manager (Windows)” on page 18

Related reference:

- “DB2 node configuration file - db2nodes.cfg” on page 243

Kernel parameters (Linux and UNIX)

Modifying kernel parameters (Linux)

Before installing a DB2 database system, you should update your Linux kernel parameters. The default values for particular kernel parameters on Linux are not sufficient when running a DB2 database system. DB2 automatically raises the IPC limits where necessary based on the needs of the DB2 database system. However, it may be more practical to set the limits permanently on your Linux system if you have products or applications other than a DB2 database system.

Prerequisites:

You must have root authority to modify kernel parameters.

Procedure:

To update kernel parameters:

Red Hat and SUSE Linux

The following information can be used to determine if there are any necessary changes required for your system.

The following is the output from the `ipcs -l` command. Comments have been added following the // to show what the parameter names are.

```
# ipcs -l

----- Shared Memory Limits -----
max number of segments = 4096          // SHMMNI
max seg size (kbytes) = 32768         // SHMMAX
max total shared memory (kbytes) = 8388608 // SHMALL
min seg size (bytes) = 1
```

```

----- Semaphore Limits -----
max number of arrays = 1024           // SEMMNI
max semaphores per array = 250       // SEMMSL
max semaphores system wide = 256000  // SEMMNS
max ops per semop call = 32          // SEMOPM
semaphore max value = 32767

----- Messages: Limits -----
max queues system wide = 1024        // MSGMNI
max size of message (bytes) = 65536  // MSGMAX
default max size of queue (bytes) = 65536 // MSGMNB

```

Beginning with the first section on Shared Memory Limits, SHMMAX and SHMALL are the parameters that need to be looked at. SHMMAX is the maximum size of a shared memory segment on a Linux system whereas SHMALL is the maximum allocation of shared memory pages on a system.

For SHMMAX, the minimum required on x86 systems would be 268435456 (256 MB) and for 64-bit systems, it would be 1073741824 (1 GB).

SHMALL is set to 8 GB by default (8388608 KB = 8 GB). If you have more physical memory than this, and it is to be used for DB2, then this parameter should be increased to approximately 90% of the physical memory on the box. For instance, if you have a computer system with 16 GB of memory to be used primarily for DB2, then 90% of 16 GB is 14.4 GB divided by 4 KB (the base page size) is 3774873. The ipcs output has converted SHMALL into kilobytes. The kernel requires this value as a number of pages.

The next section covers the amount of semaphores available to the operating system. The kernel parameter sem consists of 4 tokens, SEMMSL, SEMMNS, SEMOPM and SEMMNI. SEMMNS is the result of SEMMSL multiplied by SEMMNI. The database manager requires that the number of arrays (SEMMNI) be increased as necessary. Typically, SEMMNI should be twice the maximum number of connections allowed (MAXAGENTS) multiplied by the number of logical partitions on the database server computer plus the number of local application connections on the database server computer.

The third section covers messages on the system.

MSGMNI affects the number of agents that can be started, MSGMAX affects the size of the message that can be sent in a queue, and MSGMNB affects the size of the queue.

MSGMAX should be change to 64 KB (that is, 65535 bytes), and MSGMNB should be increased to 65535 on Server systems.

To modify these kernel parameters, we need to edit the /etc/sysctl.conf file. If this file does not exist, it should be created. The following lines are examples of what should be placed into the file:

```

kernel.sem=250 256000 32 1024
#Example shmax for a 64-bit system
kernel.shmax=1073741824
#Example shmall for 90 percent of 16 GB memory
kernel.shmall=3774873
kernel.msgmax=65535
kernel.msgmnb=65535

```

Run `sysctl` with `-p` parameter to load in `sysctl` settings from the default file `/etc/sysctl.conf`.

```
sysctl -p
```

To make the changes effective after every reboot, `boot.sysctl` needs to be active on SUSE Linux. On Red Hat, the `rc.sysinit` initialization script will read the `/etc/sysctl.conf` file automatically.

Related tasks:

- “Installing DB2 servers (Linux and UNIX)” on page 53

Related reference:

- “Installation requirements for DB2 clients and servers (Linux)” on page 20

Modifying kernel parameters (Solaris Operating Environment)

For the DB2 database system to operate properly, it is recommended that you update your system’s kernel configuration parameters. You can use the `db2osconf` utility to suggest recommended kernel parameters.

To use the `db2osconf` command, you must first install the DB2 database system. The `db2osconf` utility can only be run from `$DB2DIR/bin`, where `$DB2DIR` is the directory where you installed your DB2 product.

You must restart your system after modifying kernel parameters.

Prerequisites:

You must have root authority to modify kernel parameters.

Procedure:

To set a kernel parameter, add a line at the end of the `/etc/system` file as follows:

```
set parameter_name = value
```

For example, to set the value of the `msgsys:msginfo_msgmax` parameter, add the following line to the end of the `/etc/system` file:

```
set msgsys:msginfo_msgmax = 65535
```

After updating the `/etc/system` file, restart the system.

Related reference:

- “`db2osconf` - Utility for kernel parameter values command” in *Command Reference*

Additional partitioned database environment preinstallation tasks (Linux and UNIX)

Updating environment settings for a partitioned DB2 installation (AIX)

This task describes the environment settings that you need to update on each computer that will participate in your partitioned database system.

Procedure:

To update AIX environment settings:

1. Log on to the computer as a user with root authority.
2. Set the AIX maxuproc (maximum number of processes per user) device attribute to 4096 by entering the following command:

```
chdev -l sys0 -a maxuproc='4096'
```

Note: A bosboot/reboot may be required to switch to the 64-bit kernel if a different image is being run.

3. Set the TCP/IP network parameters on all the workstations that are participating in your partitioned database system to the following values. These values are the minimum values for these parameters. If any of the network-related parameters are already set to a higher value, do not change it.

```
thewall      = 65536
sb_max       = 1310720
rfc1323      = 1
tcp_sendspace = 221184
tcp_recvspace = 221184
udp_sendspace = 65536
udp_recvspace = 65536
ipqmaxlen    = 250
somaxconn    = 1024
```

To list the current settings of all network-related parameters, enter the following command:

```
no -a | more
```

To set a parameter, enter the follow command:

```
no -o parameter_name=value
```

where:

- *parameter_name* represents the parameter you want to set.
- *value* represents the value that you want to set for this parameter.

For example, to set the tcp_sendspace parameter to 221184, enter the following command:

```
no -o tcp_sendspace=221184
```

4. If you are using a high speed interconnect, you must set the *spoolsize* and *rpoolsize* for *css0* to the following values:

```
spoolsize    16777216
rpoolsize    16777216
```

To list the current settings of these parameters, enter the following command:

```
lsattr -l css0 -E
```

To set these parameters, enter the following commands:

```
/usr/lpp/ssp/css/chgcss -l css0 -a spoolsize=16777216
/usr/lpp/ssp/css/chgcss -l css0 -a rpoolsize=16777216
```

If you are not using the /tftpboot/tuning.cst file to tune your system, you can use the DB2DIR/misc/rc.local.sample sample script file, where DB2DIR is path where the DB2 product has been installed to, to update the network-related parameters after installation. To update the network-related parameters using the sample script file after installation, perform the following steps:

- a. Copy this script file to the /etc directory and make it executable by root by entering the following commands:

```
cp /usr/opt/db2_09_01/misc/rc.local.sample /etc/rc.local
chown root:sys /etc/rc.local
chmod 744 /etc/rc.local
```

- b. Review the /etc/rc.local file and update it if necessary.
- c. Add an entry to the /etc/inittab file so that the /etc/rc.local script is executed whenever the machine is rebooted. You can use the mkitab command to add an entry to the /etc/inittab file. To add this entry, enter the following command:

```
mkstab "rclocal:2:wait:/etc/rc.local > /dev/console 2>&1"
```

- d. Ensure that /etc/rc.nfs entry is included in the /etc/inittab file by entering the following command:

```
lsitab rcnfs
```

- e. Update the network parameters without rebooting your system by entering the following command:

```
/etc/rc.local
```

5. Ensure that you have enough paging space for a partitioned installation of DB2 ESE to run. If you do not have sufficient paging space, the operating system will kill the process that is using the most virtual memory (this is likely to be one of the DB2 processes). To check for available paging space, enter the following command:

```
lsps -a
```

This command will return output similar to the following:

Page Space	Physical Volume	Volume Group	Size	%Used	Active	Auto	Type
paging00	hdisk1	rootvg	60MB	19	yes	yes	lv
hd6	hdisk0	rootvg	60MB	21	yes	yes	lv
hd6	hdisk2	rootvg	64MB	21	yes	yes	lv

We recommend that the paging space available be equal to twice the amount of physical memory installed on your computer.

6. If you are creating a small to intermediate size partitioned database system, the number of network file system daemons (NFSDs) on the instance-owning computer should be close to:

```
# of biod on a computer X # of computers in the instance
```

We recommended that you run 10 biod processes on every computer.

According to the above formula, on a four computer system with 10 biod processes, you would use 40 NFSDs.

If you are installing a larger system, you can have up to 120 NFSDs on the computer.

For additional information about NFS, refer to your NFS documentation.

Related tasks:

- "Setting up a partitioned database environment" on page 55

Setting up a working collective to distribute commands to ESE workstations (AIX)

In a partitioned database environment on AIX, you can set up a working collective to distribute commands to the set of RS/6000® SP™ workstations that participate in your partitioned database system. Commands can be distributed to the workstations by the dsh command.

This can be useful when installing or administrating a partitioned database system on AIX, to enable you quickly execute the same commands on all the computers in your environment with less opportunity for error.

Prerequisites:

You must know the hostname of each computer that you want to include in the working collective.

You must be logged on to the Control workstation as a user with root authority.

Procedure:

Have a file that lists the hostnames for all of the RS/6000 SP workstations that will participate in your partitioned database system. To set up the working collective to distribute commands to this list of workstations:

1. Create a file called `eeelist.txt` that will list the *hostnames* for all of the workstations that will participate in the working collective.

For example, assume that you wanted to create a working collective with two SP nodes called `workstation1` and `workstation2`. The contents of this file would be:

```
workstation1
workstation2
```

2. Update the working collective environment variable. To update this list, enter the following command:

```
export WCOLL=path/eeelist.txt
```

where *path* is the location where `eeelist.txt` was created, and `eeelist.txt` is the name of the file that you created that lists the RS/6000 SP workstations in the working collective.

3. Verify that the names in the working collective are indeed the workstations that you want, by entering the following command:

```
dsh -q
```

You will receive output similar to the following:

```
Working collective file /eeelist.txt:
workstation1
workstation2
Fanout: 64
```

Related tasks:

- “Verifying that NFS is running (Linux and UNIX)” on page 37

Verifying that NFS is running (Linux and UNIX)

Before setting up a database partitioned environment, you should verify that Network File System (NFS) is running on each computer that will participate in your partitioned database system.

Prerequisites:

NFS must be running on each computer.

Procedure:

To verify that NFS is running on each computer:

AIX Type the following command on each computer:

```
lssrc -g nfs
```

The Status field for NFS processes should indicate active.

After you have verified that NFS is running on each system, you should check for the specific NFS processes required by DB2 products. The required processes are:

```
rpc.lockd  
rpc.statd
```

Solaris Operating Environment

Type the following command on each computer:

```
showmount -e hostname
```

Enter the showmount command without the *hostname* parameter to check the local system.

If NFS is not active you will receive a message similar to the following:

```
showmount: ServerA: RPC: Program not registered
```

After you have verified that NFS is running on each system, you should check for the specific NFS processes required by DB2 products:

```
rpc.lockd  
rpc.statd
```

You can use the following commands to check for these processes:

```
ps -ef | grep rpc.lockd  
ps -ef | grep rpc.statd
```

Linux Type the following command on each computer:

```
showmount -e hostname
```

Enter the showmount command without the *hostname* parameter to check the local system.

If NFS is not active you will receive a message similar to the following:

```
showmount: ServerA: RPC: Program not registered
```

After you have verified that NFS is running on each system, you should check for the specific NFS processes required by DB2 products. The required process is `rpc.statd`. You can use the `ps -ef | grep rpc.statd` commands to check for this process.

If these processes are not running, consult your operating system documentation.

Related tasks:

- “Setting up a partitioned database environment” on page 55

Verifying port range availability on participating computers (Linux and UNIX)

This task describes the steps required to verify port range availability on participating computers. The port range is used by the Fast Communications Manager (FCM). FCM is a feature of DB2 that handles communications between database partition servers.

When you install the instance-owning database partition server on the primary machine, DB2 reserves a port range according to the specified number of database partition servers participating in partitioned database environment. The default range is four ports. The DB2 Setup wizard must be able to reserve an identical port range when database partition servers are installed on participating computers; the port range needs to be free on each of the database partition servers.

This task should be done after you install the instance-owning database partition server and before you install any participating database partition servers.

Prerequisites:

To make changes to the services file, you require root authority.

Procedure:

To verify the port range availability on participating computers:

1. Open the services file located in the /etc/services directory.
2. Locate the ports reserved for the DB2 Fast Communications Manager (FCM). The entries should appear similar to the following:

```
DB2_db2inst1      60000/tcp
DB2_db2inst1_1   60001/tcp
DB2_db2inst1_2   60002/tcp
DB2_db2inst1_END 60003/tcp
```

DB2 reserves the first four available ports after 60000.

3. On each participating computer, open the services file and verify that the ports reserved for DB2 FCM in the services file of the primary computer are not being used.
4. In the event that the required ports are in use on a participating computer, identify an available port range for all computers and update each service file, including the services file on the primary computer.

Related concepts:

- “Fast communications manager (Linux and UNIX)” on page 26

Related reference:

- “DB2 node configuration file - db2nodes.cfg” on page 243

Creating file system for a partitioned database environment (Linux and UNIX)

Creating a DB2 home file system for a partitioned database system (AIX)

This task is part of setting up your partitioned database system. This task describes how to:

- create a DB2 home file system
- NFS export the home file system
- NFS mount the home file system from each participating computer

It is recommended that you create a home file system that is 1 GB in size or greater. Later installation instruction will ask that you copy the contents of the DB2 product CD to a directory on your DB2 home file system. The DB2 product CD will temporarily occupy approximately 700 MB of space. A DB2 instance will require at least 50 MB of space. If you do not have 1 GB of free space, you can mount the DB2 product CD from each participating computer as an alternative to copying the contents to disk.

Prerequisites:

You must have:

- root authority to create a file system
- Created a volume group where your file system is to physically reside.

Procedure:

To create, NFS export, and NFS mount the DB2 home file system, perform the following steps:

Creating the DB2 home file system

Log on to the primary computer (ServerA) in your partitioned database system as a user with root authority and create a home file system for your partitioned database system called /db2home.

1. Enter the **smit jfs** command.
2. Click on the **Add a Journaled File System** icon.
3. Click on the **Add a Standard Journaled File System** icon.
4. Select an existing volume group from the **Volume Group Name** list where you want this file system to physically reside.
5. Set the **SIZE** of file system (**SIZE of file system (in 512-byte blocks) (Num.)** field). This sizing is enumerated in 512-byte blocks, so if you only need to create a file system for the instance home directory, you can use 180 000, which is about 90 MB. If you need to copy the product CD image over to run the installation, you can create it with a value of 20 000 000, which is about 1 GB.
6. Enter the mount point for this file system in the **MOUNT POINT** field. In this example, the mount point is /db2home.
7. Set the **Mount AUTOMATICALLY at system restart** field to **yes**. The remaining fields can be left to the default settings.
8. Click **OK**.

Exporting the DB2 home file system

1. NFS export the /db2home file system so that it is available to all of the computers that will participate in your partitioned database system:
 - a. Enter the **smit nfs** command.
 - b. Click on the **Network File System (NFS)** icon.
 - c. Click on the **Add a Directory to Exports List** icon.
 - d. Enter the pathname and directory to export (for example, /db2home) in the **PATHNAME of directory to export** field.
 - e. Enter the name of each workstation that will participate in your partitioned database system in the **HOSTS allowed root access** field. Use a comma (,) as the delimiter between each name. For example, ServerA, ServerB, ServerC. If you are using a high speed interconnect, we recommend that you specify the high speed interconnect names for each workstation in this field as well. The remaining fields can be left to the default settings.
 - f. Click **OK**.
2. Log out.

Mounting the DB2 home file system from each participating computer

Log on to *each* participating computer (ServerB, ServerC, ServerD) and NFS mount the file system that you exported by performing the following steps:

1. Enter the **smit nfs** command.
2. Click on the **Network File System (NFS)** icon.
3. Click on the **Add a File System for Mounting** icon.
4. Enter the pathname of the mount point in the **PATHNAME of the mount point (Path)** field.

The path name of the mount point is where you should create the DB2 home directory. For this example, use /db2home.

5. Enter the pathname of the remote directory in the **PATHNAME of the remote directory** field.

For our example, you should enter the same value that you entered in the **PATHNAME of the mount point (Path)** field.

6. Enter the *hostname* of the machine where you exported the file system in the **HOST where the remote directory resides** field.

This is the hostname of the machine where the file system that you are mounting was created.

To improve performance, you may want to NFS mount the file system that you created over a high speed interconnect. If you want to mount this file system using a high speed interconnect, you must enter its name in the **HOST where remote directory resides** field.

You should be aware that if the high speed interconnect ever becomes unavailable for some reason, every workstation that participates in your partitioned database system will lose access to the DB2 home directory.

7. Set the **MOUNT now, add entry to /etc/filesystems or both?** field to both.
8. Set the **/etc/filesystems entry will mount the directory on system RESTART** field to yes.
9. Set the **MODE for this NFS file system** field to read-write.
10. Set the **Mount file system soft or hard** field to soft.

A soft mount means that the computer *will not* try for an infinite period of time to remotely mount the directory. A hard mount means that your machine will infinitely try to mount the directory. This could cause problems in the event of a system crash. We recommend that you set this field to soft.

The remaining fields can be left to the default settings.

11. Ensure that this file system is mounted with the **Allow execution of SUID and sgid programs in this file system?** field set to Yes. This is the default setting.
12. Click **OK**.
13. Log out.

Related tasks:

- “Copying the contents of the DB2 product CD to your computer (Linux and UNIX)” in *Quick Beginnings for DB2 Servers*
- “Setting up a partitioned database environment” on page 55

Creating a file system for a partitioned DB2 server (Linux)

This task is part of setting up your partitioned database system. This task describes how to:

- create a DB2 home file system
- NFS export the home file system
- NFS mount the home file system from each participating computer

You must have a file system that is available to all machines that will participate in your partitioned database system. This file system will be used as the instance home directory.

For configurations that use more than one machine for a single database instance, NFS (Network File System) is used to share this file system. Typically, one machine in a cluster is used to export the file system using NFS, and the remaining machines in the cluster mount the NFS file system from this machine. The machine that exports the file system has the file system mounted locally.

For more command information, see your Linux distribution documentation.

Procedure:

To create this file system:

1. On one machine, select a disk partition or create one using `fdisk`.
2. Using a utility like `mkfs`, create a file system on this partition. The file system should be large enough to contain the necessary DB2 program files as well as enough space for your database needs.
3. Locally mount the file system you have just created and add an entry to the `/etc/fstab` file so that this file system is mounted each time the system is rebooted. For example:

```
    /dev/hda1    /db2home    ext3    defaults    1 2
```
4. To automatically export an NFS file system on Linux at boot time, add an entry to the `/etc/exports` file. Be sure to include all of the host names participating in the cluster as well as all of the names that a machine might be known as. Also, ensure that each machine in the cluster has root authority on the exported file system by using the “root” option.

The `/etc/exports` is an ASCII file which contains the following type of information:

```
/db2home machine1_name(rw) machine2_name(rw)
```

To export the NFS directory, run

```
/usr/sbin/exports -r
```

5. On each of the remaining machines in the cluster, add an entry to the `/etc/fstab` file to NFS mount the file system automatically at boot time. As in the following example, when you specify the mount point options, ensure that the file system is mounted at boot time, is read-write, is mounted hard, includes the `bg` (background) option, and that `setuid` programs can be run properly.

```
fusion-en:/db2home /db2home nfs rw,timeo=7,  
hard,intr,bg,suid,lock
```

where `fusion-en` represents the machine name.

6. NFS mount the exported file system on each of the remaining machines in the cluster by entering the following command:

```
mount /db2home
```

If the `mount` command fails, use the `showmount` command to check the status of the NFS server. For example:

```
showmount -e fusion-en
```

This `showmount` command should list the file systems which are exported from the machine named `fusion-en`. If this command fails, the NFS server may not have been started. Run the following command as root on the NFS server to start the server manually:

```
/etc/rc.d/init.d/nfs restart
```

Assuming the present run level is 3, you can have this command run automatically at boot time by renaming `K20nfs` to `S20nfs` under the following directory: `/etc/rc.d/rc3.d`.

7. Ensure that the following steps were successful:
 - a. On a single machine in the cluster, you have created a file system to be used as the instance and home directory.
 - b. If you have a configuration that uses more than one machine for a single database instance, you have exported this file system using NFS.
 - c. You have mounted the exported file system on each of the remaining machines in the cluster.

Related tasks:

- “Copying the contents of the DB2 product CD to your computer (Linux and UNIX)” in *Quick Beginnings for DB2 Servers*
- “Setting up a partitioned database environment” on page 55

Creating a file system for a partitioned DB2 server (Solaris Operating Environment)

This task is part of setting up your partitioned database system. This task describes how to:

- create a DB2 home file system
- NFS export the home file system

- NFS mount the home file system from each participating computer

It is recommended that you create a home file system that is 1 GB in size or greater. Later installation instructions will ask that you copy the contents of the DB2 product CD to a directory on your DB2 home file system. The DB2 product CD will temporarily occupy approximately 700 MB of space. A DB2 instance will require at least 50 MB of space. If you do not have 1 GB of free space, you can mount the DB2 product CD from each participating computer as an alternative to copying the contents to disk.

There are a number of ways to create a local file system on a Solaris Operating Environment system. If you want to use a product, such as Veritas, to create the file system, refer to the product's documentation.

Prerequisites:

You must have root authority to create a file system.

Procedure:

To create, NFS export, and NFS mount the DB2 home file system, perform the following steps:

Creating the DB2 home file system

1. On the primary computer (ServerA), select a disk partition or configure one using the `format` command. When using the `format` command, ensure that the disk partitions being used do not overlap. Overlapping partitions can cause data corruption or file system failures. Ensure you have correctly entered the command, as mistakes can cause serious problems.
2. Using a utility like `newfs` or `mkfs`, create a file system on this partition. The file system should be large enough to contain the necessary DB2 files as well as other non-DB2 files. A minimum of 300 MB is recommended.
3. Locally mount the file system you have just created and add an entry to the `/etc/vfstab` file so that this file system is mounted each time the system is rebooted. For example:

```
/dev/dsk/c1t0d2s2 /dev/rdisk/c1t0d2s2 /db2home ufs 2 yes -
```

Exporting the DB2 home file system

1. To automatically export an NFS file system on Solaris at boot time, add an entry to the `/etc/dfs/dfstab` file. Be sure to include all of the host names of the participating computers as well as all of the names that a given computer might be known as. Also, ensure that each computer has root authority on the exported file system by using the "root" option.

In the following example, an entry for a four computer partitioned database system is added to the `/etc/dfs/dfstab` file. The participating computers, ServerB, ServerC, and ServerD, are given permission to mount the file system `/db2home`, which will be used as the DB2 home file system.

```
share -F nfs -o \
rw=ServerB.torolab.ibm.com, \
root=ServerB.torolab.ibm.com \

rw=ServerC.torolab.ibm.com, \
```

```

root=ServerC.torolab.ibm.com\
rw=ServerD.torolab.ibm.com,\
root=ServerD.torolab.ibm.com \
-d "homes" /db2home

```

If a computer is known by more than one hostname, all aliases must be included in the `/etc/dfs/dfstab` file. For example, if ServerB was also known by the name ServerB-tokenring, the entry in the `/etc/dfs/dfstab` for ServerB would appear as follows:

```

rw=ServerB.torolab.ibm.com:ServerB-tokenring.torolab.ibm.com,\
root=ServerB.torolab.ibm.com:ServerB-tokenring.torolab.ibm.com \

```

2. On each of the participating computers, add an entry to the `/etc/vfstab` file to NFS mount the file system automatically at boot time. As in the following example, when you specify the mount point options, ensure that the file system is mounted at boot time, is read-write, is mounted hard, includes the `bg` (background) option, and that `suid` programs can be run properly:

```
ServerA:/db2home - /db2home nfs - yes rw,hard,intr,bg,suid
```

Mounting the DB2 home file system from each participating computer

1. Create and NFS mount the exported file system on each of the participating computers in the partitioned database environment by entering the following commands:

```

mkdir /db2home
mount /db2home

```

If the `mount` command fails, use the `showmount` command to check the status of the NFS server. For example:

```
showmount -e ServerA
```

This `showmount` command should list the file systems which are exported from the computer named ServerA. If this command fails, the NFS server may not have been started. To start the server manually, run the following commands as root on the NFS server:

```

/usr/lib/nfs/mountd
/usr/lib/nfs/nfsd -a 16

```

These commands are run automatically at boot time if there are any entries in the `/etc/dfs/dfstab` file. After starting the NFS server, export the NFS file system again by running the following command:

```
sh /etc/dfs/dfstab
```

Ensure that you have completed the following steps:

1. On a single computer in the partitioned database environment, you have created a file system to be used as the instance and home directory.
2. You have exported this file system via NFS.
3. You have mounted the exported file system on each participating computer.

Related tasks:

- “Copying the contents of the DB2 product CD to your computer (Linux and UNIX)” in *Quick Beginnings for DB2 Servers*
- “Setting up a partitioned database environment” on page 55

Creating required users (Linux and UNIX)

Creating required users for a DB2 server installation in a partitioned database environment (AIX)

Three users and groups are required to operate a DB2 database. The user and group names used in the following instructions are documented in the following table. You may specify your own user and group names as long as they adhere to your system naming rules and DB2 naming rules.

If you are planning to use the DB2 Setup wizard to install your DB2 product, the DB2 Setup wizard will create these users for you.

Table 9. Required users and groups (AIX)

Required user	User name	Group name
Instance owner	db2inst1	db2iadm1
Fenced user	db2fenc1	db2fadm1
Administration server user	dasusr1	dasadm1

If the Administration server user is an existing user, this user must exist on all the participating computers before the installation. If you use the DB2 Setup wizard to create a new user for the Administration server on the instance-owning computer, then this user is also created (if necessary) during the response file installations on the participating computers. If the user already exists on the participating computers, the user must have the same primary group.

Prerequisites:

- You must have root authority to create users and groups.
- If you manage users and groups with NIS/NIS+ or similar security software, see *NIS/NIS+ considerations* before creating users and groups. Additional steps may be required to when defining DB2 users and groups.

Restrictions:

The user names you create must conform to both your operating system's naming rules, and those of DB2.

Procedure:

To create all three of these users, perform the following steps:

1. Log on to the primary computer.
2. Create a group for the instance owner (for example, db2iadm1), the user that will execute UDFs or stored procedures (for example, db2fadm1), and the Administration Server (for example, dasadm1) by entering the following commands:

```
mkgroup id=999 db2iadm1
mkgroup id=998 db2fadm1
mkgroup id=997 dasadm1
```

3. Create a user that belongs to each group that you created in the previous step using the following commands. The home directory for each user will be the DB2 home directory that you previously created and shared (db2home).

```

mkuser id=1004 pgrp=db2iadm1 groups=db2iadm1 home=/db2home/db2inst1
  core=-1 data=491519 stack=32767 rss=-1 fsize=-1 db2inst1
mkuser id=1003 pgrp=db2fadm1 groups=db2fadm1 home=/db2home/db2fenc1
  db2fenc1
mkuser id=1002 pgrp=dasadm1 groups=dasadm1 home=/home/dasusr1
  dasusr1

```

4. Set an initial password for each user that you created by entering the following commands:

```

passwd db2inst1
passwd db2fenc1
passwd dasusr1

```

5. Log out.
6. Log on to the primary computer as each user that you created (db2inst1, db2fenc1, and dasusr1). You may be prompted to change each user's password since this is the first time that these users have logged onto the system.
7. Log out.
8. Create the exact same user and group accounts on each computer that will participate in your partitioned database environment. For our example, perform this task on ComputerB, ComputerC, and ComputerD.

Related tasks:

- "Setting up a partitioned database environment" on page 55

Related reference:

- "Centralized user-management considerations (Linux and UNIX)" on page 27

Creating required users for a DB2 server installation in a partitioned database environment (Linux)

Three users and groups are required to operate a DB2 database. The user and group names used in the following instructions are documented in the following table. You may specify your own user and group names as long as they adhere to your system naming rules and DB2 naming rules.

If you are planning to use the DB2 Setup wizard to install your DB2 product, the DB2 Setup wizard will create these users for you.

Table 10. Required users and groups

Required user	user name	group name
Instance owner	db2inst1	db2iadm1
Fenced user	db2fenc1	db2fadm1
Administration server user	dasusr1	dasadm1

If an existing user is used as the Administration server user, this user must also exist on all the participating computers before installation. If you use the DB2 Setup wizard to create a new user for the Administration server on the instance owning computer, then this user will also be created (if necessary) during the response file installations on the participating computers. If the user already exists on the participating computers, it must have the same primary group.

Prerequisites:

- You must have root authority to create users and groups.

- If you manage users and groups with NIS/NIS+ or similar security software, see *NIS/NIS+ considerations* before creating users and groups. Additional steps may be required when defining DB2 users and groups.

Restrictions:

The user names you create must conform to both your operating system's naming rules, and those of DB2.

Procedure:

To create all three of these users, perform the following steps:

1. Log on to the primary computer.
2. Create a group for the instance owner (for example, db2iadm1), the user that will execute UDFs or stored procedures (for example, db2fadm1), and the Administration Server (for example, dasadm1) by entering the following commands:

```
groupadd -g 999 db2iadm1
groupadd -g 998 db2fadm1
groupadd -g 997 dasadm1
```

Ensure that the specific numbers you are using do not currently exist on any of the machines.

3. Create a user that belongs to each group that you created in the previous step using the following commands. The home directory for each user will be the DB2 home directory that you previously created and shared (db2home).


```
useradd -u 1004 -g db2iadm1 -m -d /db2home/db2inst1 db2inst1 -p password1
useradd -u 1003 -g db2fadm1 -m -d /db2home/db2fenc1 db2fenc1 -p password2
useradd -u 1002 -g dasadm1 -m -d /home/dasusr1 dasusr1 -p password3
```
4. Set an initial password for each user that you created by entering the following commands:


```
passwd db2inst1
passwd db2fenc1
passwd dasusr1
```
5. Log out.
6. Log on to the primary computer as each user that you created (db2inst1, db2fenc1, and dasusr1). You may be prompted to change each user's password since this is the first time that these users have logged onto the system.
7. Log out.
8. Create the exact same user and group accounts on each computer that will participate in your partitioned database environment. For our example, perform this task on ComputerB, ComputerC, and ComputerD.

Related tasks:

- "Setting up a partitioned database environment" on page 55

Related reference:

- "Centralized user-management considerations (Linux and UNIX)" on page 27

Creating required users for a DB2 server installation in a partitioned database environment (Solaris Operating Environment)

Three users and groups are required to operate DB2. The user and group names used in the following instructions are documented in the following table. You may specify your own user and group names as long as they adhere to your system naming rules and DB2 naming rules.

If you are planning to use the DB2 Setup wizard to install your DB2 product, the DB2 Setup wizard will create these users for you.

Table 11. Required users and groups

Required user	user name	group name
Instance owner	db2inst1	db2iadm1
Fenced user	db2fenc1	db2fadm1
Administration server user	dasusr1	dasadm1

If an existing user is used as the Administration server user, this user must also exist on all the participating computers before installation. If you use the DB2 Setup wizard to create a new user for the Administration server on the instance owning computer, then this user will also be created (if necessary) during the response file installations on the participating computers. If the user already exists on the participating computers, it must have the same primary group.

Prerequisites:

- You must have root authority to create users and groups.
- If you manage users and groups with NIS/NIS+ or similar security software, see *NIS/NIS+ considerations* before creating users and groups.

Restrictions:

The user names you create must conform to both your operating system's naming rules, and those of DB2.

Procedure:

To create all three of these users, perform the following steps:

1. Log on to the primary computer.
2. Create a group for the instance owner (for example, db2iadm1), the user that will execute UDFs or stored procedures (for example, db2fadm1), and the Administration Server (for example, dasadm1) by entering the following commands:

```
groupadd id=999 db2iadm1
groupadd id=998 db2fadm1
groupadd id=997 dasadm1
```

3. Create a user for each group using the following commands. The home directory for each user will be the DB2 home directory that you previously created and shared (/db2home).

```
useradd -u 1004 -g db2iadm1 -d /db2home/db2inst1 -m db2inst1 passwd mypasswd
useradd -u 1003 -g db2fadm1 -d /db2home/db2fenc1 -m db2fenc1 passwd mypasswd
useradd -u 1002 -g dasadm1 -d /export/home/dasusr1 -m dasusr1 passwd mypasswd
```

4. Set an initial password for each user that you created by entering the following commands:

```
passwd db2inst1
passwd db2fenc1
passwd dasusr1
```
5. Log out.
6. Log on to the primary computer as each user that you created (db2inst1, db2fenc1, and dasusr1). You may be prompted to change each user's password since this is the first time that these users have logged onto the system.
7. Log out.
8. Create the exact same user and group accounts on each computer that will participate in your partitioned database environment. For our example, perform this task on ComputerB, ComputerC, and ComputerD.

Related tasks:

- "Setting up a partitioned database environment" on page 55

Related reference:

- "Centralized user-management considerations (Linux and UNIX)" on page 27

Chapter 4. Installing your DB2 server product

Installing DB2 servers (Windows)

This task describes how to start the DB2 Setup wizard on Windows. You will use the DB2 Setup wizard to define your installation and install your DB2 product on your system.

Prerequisites:

Before you start the DB2 Setup wizard:

- If you are planning on setting up a partitioned database environment, see the "Setting up a partitioned database environment" topic.
- Ensure that your system meets installation, memory, and disk requirements.
- You must have a local *Administrator* user account with the recommended user rights to perform the installation.
- Although not mandatory, it is recommended that you close all programs so that the installation program can update any files on the computer without requiring a reboot.

Restrictions:

- The DB2 copy name and the instance name cannot start with a numeric value.
- The DB2 copy name and the instance name must be unique among all DB2 copies.
- The use of XML features is restricted to a database that is defined with the code set UTF-8 and that has only one database partition.

Procedure:

To start the DB2 Setup wizard:

1. Log on to the system with the local Administrator account that you have defined for the DB2 installation.
2. Download the self-extracting file and the applicable activation files for the configuration that you intend to install.
3. From the DB2 Setup launchpad, you can view installation prerequisites and the release notes, or you can proceed directly to the installation. You may want to review the installation prerequisites and release notes for late-breaking information.
4. Click **Install a Product** and the **Install a Product** window will display the products available for installation.

If you have no existing DB2 products installed on your computer, launch the installation by clicking **Install New**. Proceed through the installation following the DB2 Setup wizard's prompts.

If you have at least one existing DB2 product installed on your computer, you can:

- Click **Install New** to create a new DB2 copy
- Click **Work with Existing** to upgrade an existing DB2 copy, to add functionality to an existing DB2 copy, or to install an add-on product.

- Click **Migrate** to migrate an existing DB2 Version 8 copy.

Note: For a Common Criteria environment, only **Install New** is supported.

5. The DB2 Setup wizard will determine the system language, and launch the setup program for that language. Online help is available to guide you through the remaining steps. To invoke the online help, click **Help** or press **F1**. You can click **Cancel** at any time to end the installation.

Your DB2 product will be installed, by default, in the x:\Program Files\IBM\sqllib directory, where x: represent the drive letter of the drive where you have installed your DB2 product.

You can also specify your own DB2 product installation path.

For information on errors encountered during installation, review the installation log file located in the My Documents\DB2LOG\ directory. The log file uses the following format: DB2-ProductAbrev-DateTime.log, for example, DB2-ESE-Tue Apr 04 17_04_45 2006.log.

If you want your DB2 product to have access to DB2 documentation either on your local computer or on another computer on your network, then you must install the DB2 Information Center. The DB2 Information Center contains documentation for the DB2 database system and DB2 related products. By default, DB2 information will be accessed from the web if the DB2 Information Center is not locally installed.

Related concepts:

- “About the Release Notes” in *Release Notes*
- “DB2 database object naming rules” in *Administration Guide: Implementation*
- “DB2 Information Center installation options” in *Quick Beginnings for DB2 Servers*

Related tasks:

- “Notification and contact list setup and configuration” in *Administration Guide: Implementation*
- “Tools catalog database and DB2 administration server (DAS) scheduler setup and configuration” in *Administration Guide: Implementation*
- “Migrating a DB2 server (Windows)” in *Migration Guide*
- “Setting up a partitioned database environment” on page 55
- “Using the Default DB2 Selection wizard (Windows)” in *Quick Beginnings for DB2 Servers*

Related reference:

- “UPDATE ADMIN CONFIGURATION command” in *Command Reference*
- “Multiple DB2 copies roadmap” in *Administration Guide: Implementation*
- “Disk and memory requirements” on page 9
- “Installation requirements for DB2 clients and servers (Windows)” on page 9
- on page 0

Installing DB2 servers (Linux and UNIX)

This task describes how to start the DB2 Setup wizard on Linux and UNIX systems. The DB2 Setup wizard is used to define your installation preferences and to install your DB2 product on your system.

Prerequisites:

Before you start the DB2 Setup wizard:

- Ensure that your system meets installation, memory, and disk requirements.
- You must have root authority to perform the installation.
- The DB2 product image must be available.
- The DB2 Setup wizard is a graphical installer. You must have X windows software capable of rendering a graphical user interface for the DB2 Setup wizard to run on your machine. Ensure that the X windows server is running. Ensure that you have properly exported your display. For example, export `DISPLAY=9.26.163.144:0`.
- If NIS/NIS+ or similar security software is used in your environment, you must manually create required DB2 users before you start the DB2 Setup wizard. Refer to the referenced Centralized user-management considerations topic before you begin.

Restrictions:

The use of XML features is restricted to a database that is defined with the code set UTF-8 and has only one database partition.

Procedure:

To start the DB2 Setup wizard:

1. Log on to the system as a user with root authority.
2. Download the DB2 product image, then decompress and untar the product file.
 - a. Decompress the product file:

```
gzip -d product.tar.gz
```

where *product* is the name of the product that you downloaded.
 - b. Untar the product file:

```
tar xvf product.tar
```
 - c. Change directory:

```
cd ./product/disk1
```
3. Enter the `./db2setup` command from the directory where the product image resides to start the DB2 Setup wizard.
4. The IBM DB2 Setup Launchpad opens. From this window, you can view installation prerequisites and the release notes, or you can proceed directly to the installation. You may want to review the installation prerequisites and release notes for late-breaking information.
5. Click **Install a Product** and the **Install a Product** window will display the products available for installation.
Launch the installation by clicking **Install New**. Proceed through the installation following the DB2 Setup wizard's prompts.

Once you have initiated the installation, proceed through the DB2 Setup wizard installation panels and make your selections. Installation help is available to guide you through the remaining steps. To invoke the installation help, click **Help** or press F1. You can click **Cancel** at any time to end the installation.

Your DB2 product will be installed, by default, in one of the following directories:

AIX, Solaris Operating Environment

/opt/IBM/db2/V9.1

Linux /opt/ibm/db2/V9.1

If you are installing on a system where this directory is already being used, the DB2 product installation path will have `_xx` added to it, where `_xx` are digits, starting at 01 and increasing depending on how many DB2 copies you have installed.

You can also specify your own DB2 product installation path.

The installation logs, `db2setup.log` and `db2setup.err` will be located, by default, in the `/tmp` directory. You can specify the location of the log files.

The `db2setup.log` file captures all DB2 installation information including errors. The `db2setup.err` file captures any error output that is returned by Java (for example, exceptions and trap information).

There is no longer a `db2setup.his` file. Instead, the DB2 installer saves a copy of the `db2setup.log` file in the `DB2_DIR/install/logs/` directory, and renames it `db2install.history`. If the name already exists, then the DB2 installer renames it `db2install.history.xxxx`, where `xxxx` is 0000-9999, depending on the number of installations you have on that machine.

Each installation copy has a separate list of history files. If an installation copy is removed, the history files under this install path will be removed as well. This copying action is done near the end of the installation and if the program is stopped or aborted before completion, then the history file will not be created.

On Linux 32-bit, if you want your DB2 product to have access to DB2 documentation either on your local computer or on another computer on your network, then you must install the DB2 Information Center. The DB2 Information Center contains documentation for the DB2 database system and DB2 related products.

Related concepts:

- “DB2 Information Center installation options” in *Quick Beginnings for DB2 Servers*
- “DB2 database object naming rules” in *Administration Guide: Implementation*

Related tasks:

- “Notification and contact list setup and configuration” in *Administration Guide: Implementation*
- “Tools catalog database and DB2 administration server (DAS) scheduler setup and configuration” in *Administration Guide: Implementation*
- “Migrating a DB2 server (Linux and UNIX)” in *Migration Guide*

Related reference:

- “Centralized user-management considerations (Linux and UNIX)” on page 27

- “UPDATE ADMIN CONFIGURATION command” in *Command Reference*
- “Multiple DB2 copies roadmap” in *Administration Guide: Implementation*

Setting up a partitioned database environment

This topic describes how to set up a partitioned database environment. You will use the DB2 Setup wizard to install your instance-owning database server and to create the response files that will in turn be used to create your participating database servers.

If you have purchased DB2 Enterprise 9, you can create a partitioned instance. This option is called Database Partitioning Feature. A database partition is part of a database that consists of its own data, indexes, configuration files, and transaction logs. A partitioned database is a database with two or more partitions.

To take advantage of the Database Partitioning Feature (DPF, you must have a DPF license key in addition to the DB2 Enterprise 9 license key.

Prerequisites:

- During instance creation, a number of ports equal to the number of participating DB2 database servers that the instance is capable of supporting will be reserved in the `/etc/services` on Linux and UNIX and in the `%SystemRoot%\system32\drivers\etc\services` on Windows. These ports will be used by the Fast Communication Manager. The reserved ports will be in the following format:

```
DB2_InstanceName
DB2_InstanceName_1
DB2_InstanceName_2
DB2_InstanceName_END
```

The only mandatory entries are the beginning (`DB2_InstanceName`) and ending (`DB2_InstanceName_END`) ports. The other entries are reserved in the services file so that other applications do not use these ports

- To support multiple participating DB2 database servers, the computer on which you want to install DB2 must belong to an accessible domain. However, you can add local partitions to this computer even though the computer doesn't belong to a domain.
- On Linux and UNIX systems, a remote shell utility is required for partitioned database systems. DB2 supports the following remote shell utilities:
 - rsh
 - ssh

By default, DB2 uses rsh when executing commands on remote DB2 nodes, for example, when starting a remote DB2 database partition. To use the DB2 default, the rsh-server package must be installed (see table below).

If you choose to use the rsh remote shell utility, inetd (or xinetd) must be installed and running as well. If you choose to use the ssh remote shell utility, you need to set the `DB2RSHCMD` registry variable immediately after the DB2 installation is complete. If this registry variable is not set, rsh is used.

Restrictions:

The use of XML features prohibits later use of the Database Partitioning Feature (DPF).

Procedure:

To set up a partitioned database environment:

1. Install your instance-owning database server using the DB2 Setup wizard. For detailed instructions, see the appropriate “Installing DB2 servers” topic.
 - On the **Select installation, response files creation, or both window**, ensure that you select the **Save my installation settings in a response files** option. After the installation has completed, two files will be copied to the directory specified in the DB2 Setup wizard: PROD_ESE.rsp and PROD_ESE_addpart.rsp. The PROD_ESE.rsp file is the response file for instance-owning database servers. The PROD_ESE_addpart.rsp file is the response file for participating database servers.
 - On the **Set up partitioning options for the DB2 instance window**, ensure that you select **Multiple partition instance**, and enter the maximum number of logical partitions.
2. Make the DB2 product install image available to all participating computers in the partitioned database environment.
3. Distribute the participating database servers response file (PROD_ESE_addpart.rsp).

Note: Place the response file in the same location as the setup.exe file on every computer that will participate in the partitioned database environment.

4. Install a DB2 database server on each of the participating computers using the db2setup command on Linux and UNIX, or the setup command on Windows:

Linux and UNIX

Go to the directory where the DB2 product code is available and run:

```
./db2setup -r /responsefile_directory/response_file_name
```

Windows

```
setup -u x:\responsefile_directory\response_file_name
```

For example, here is the command using the PROD_ESE_addpart.rsp as the response file:

Linux and UNIX

Go to the directory where the DB2 product code is available and run:

```
./db2setup -r /db2home/PROD_ESE_addpart.rsp
```

where /db2home is the directory where you have copied the response file.

Windows

```
setup -u c:\resp_files\PROD_ESE_addpart.rsp
```

where c:\resp_files\ is the directory where you have copied the response file.

Related tasks:

- “Creating a DB2 home file system for a partitioned database system (HP-UX)” in *Quick Beginnings for DB2 Servers*
- “Creating a file system for a partitioned DB2 server (Linux)” on page 42
- “Creating a file system for a partitioned DB2 server (Solaris Operating Environment)” on page 43

- “Creating a DB2 home file system for a partitioned database system (AIX)” on page 40
- “Creating required users for a DB2 server installation in a partitioned database environment (AIX)” on page 46
- “Creating required users for a DB2 server installation in a partitioned database environment (HP-UX)” in *Quick Beginnings for DB2 Servers*
- “Creating required users for a DB2 server installation in a partitioned database environment (Linux)” on page 47
- “Creating required users for a DB2 server installation in a partitioned database environment (Solaris Operating Environment)” on page 49
- “Installing database partition servers on participating computers using a response file (Linux and UNIX)” on page 57
- “Installing DB2 servers (Linux and UNIX)” on page 53
- “Installing DB2 servers (Windows)” on page 51
- “Updating environment settings for a partitioned DB2 installation (AIX)” on page 34

Related reference:

- “DB2 node configuration file - db2nodes.cfg” on page 243

Installing database partition servers on participating computers using a response file (Linux and UNIX)

In this task you will use the response file you created using the DB2 Setup wizard to install database partition servers on participating computers.

Prerequisites:

- You have installed DB2 on the primary computer using the DB2 Setup wizard and have created a response file for installing on participating computers.
- You must have root authority on participating computers.

Procedure:

To install additional database partition servers using a response file:

1. As root, log on to a computer that will participate in the partitioned database environment.
2. Change to the directory where you copied the contents of the DB2 product CD-ROM:

```
cd /db2home/db2cdrom
```

3. Enter the `./db2setup` command as follows:

```
./db2setup -r /responsefile_directory/response_file_name
```

In our example, we saved the response file, `AddPartitionResponse.file`, to the `/db2home` directory. The command for our example, would be:

```
./db2setup -r /db2home/AddPartitionResponse.file
```

4. Check the messages in the log file when the installation finishes.

You must log onto each participating computer and perform a response file installation.

If you want your DB2 product to have access to DB2 documentation either on your local computer or on another computer on your network, then you must install the DB2 Information Center. The DB2 Information Center contains documentation for the DB2 database system and DB2 related products.

Related tasks:

- “Installing the DB2 Information Center using the DB2 Setup wizard (Linux)” in *Quick Beginnings for DB2 Servers*
- “Setting up a partitioned database environment” on page 55

Applying DB2 product licenses

The DB2 product installation can apply an unlicensed version of the DB2 product. To correctly license your product, you must register the proper license key with your DB2 product. The license key and fully detailed license registration procedures are available on the product Activation CD.

If you want the product or feature license key added automatically during the installation, you need to copy the license key to the /db2/license directory of the installation image before launching the DB2 Setup wizard.

Prerequisites:

You must have installed your DB2 product.

Procedure:

To enable DB2 features or to be in compliance with your current product entitlement, you might be required to:

- Install a new DB2 product license key
- Install the DB2 code that will install the appropriate license keys

Related tasks:

- “Registering a DB2 product or feature license key using the db2licm command” on page 240
- “Registering a DB2 product or feature license key using the License Center” in *Installation and Configuration Supplement*

Related reference:

- “DB2 product license files” on page 240

Part 2. Installing a Common Criteria compliant environment

Chapter 5. Installing single-partition Common Criteria compliant environments

The following topics describe how to install single-partition Common Criteria compliant environments.

Installing DB2 Enterprise 9 on AIX 5.3 for a single-partition Common Criteria compliant installation

This task provides detailed instructions on installing DB2 Enterprise 9 on AIX 5.3 for a Common Criteria compliant installation.

Prerequisites:

- The prerequisites listed in "Installation requirements for DB2 clients and servers (AIX)" must be met.
- The computer on which you install DB2 must be physically protected from untrusted users.
- AIX 5.3 must be installed on the computer with hot fix IY83580. The hot fix is available at: <ftp://service.software.ibm.com/aix/efixes/iy83580/>
- You must have the file `v9fp1_aix_ese.tar.gz` downloaded to the directory of your choice. This file is available from the DB2 9 download site (<http://ibm.com/software/data/db2/udb/support/downloadv9.html>).
- You must have downloaded the applicable activation files from the Passport Advantage site to the same directory. You require these files to activate Enterprise 9 after installation. The instance owner must have read/write authority on this directory.
 - One of the following:
 - `DB2_Enterpr_Svr_Auth_User_Activation.zip`. Required to activate DB2 Enterprise 9 if you purchase DB2 Enterprise 9 on a per user basis.
 - `DB2_Enterprise_Svr_Ed_CPU_Activation.zip`. Required to activate DB2 Enterprise 9 if you purchase DB2 Enterprise 9 on a per CPU basis.
 - `DB2_Advanced_Access_Cntrl_Activation.zip`. Required to activate label-based access control (LBAC).
 - The user names to be used for the following:
 - The DB2 instance owner
 - The DB2 Administration Server
 - The fenced user

If you do not have these user names, obtain them from your system administrator. For more information about these users, see "DB2 users and groups (Linux and UNIX)" on page 26. For information about creating these users, see "Creating group and user IDs for a DB2 database installation (Linux and UNIX)" on page 30.

The topic "Installing DB2 servers (Linux and UNIX)" provides an overview of installing on Linux and UNIX-based platforms.

Procedure:

Use the following steps to install DB2 Enterprise 9 on AIX 5.3 for a Common Criteria compliant environment.

1. Log on to the system as a user with root authority.
2. Decompress the product file:
`gzip -d v9fp1_aix_ese.tar.gz`
3. Untar the product file:
`tar xvf v9fp1_aix_ese.tar`
4. Change directory:
`cd $HOME/ese/disk1`
5. Issue the `./db2setup` command to open the "IBM DB2 Setup Launchpad" at the "Welcome" page:



Figure 1. Welcome page of the DB2 Setup Launchpad

6. On the "Welcome" page of the "IBM DB2 Setup Launchpad", click **Install a Product** to open the "Install a Product" page.

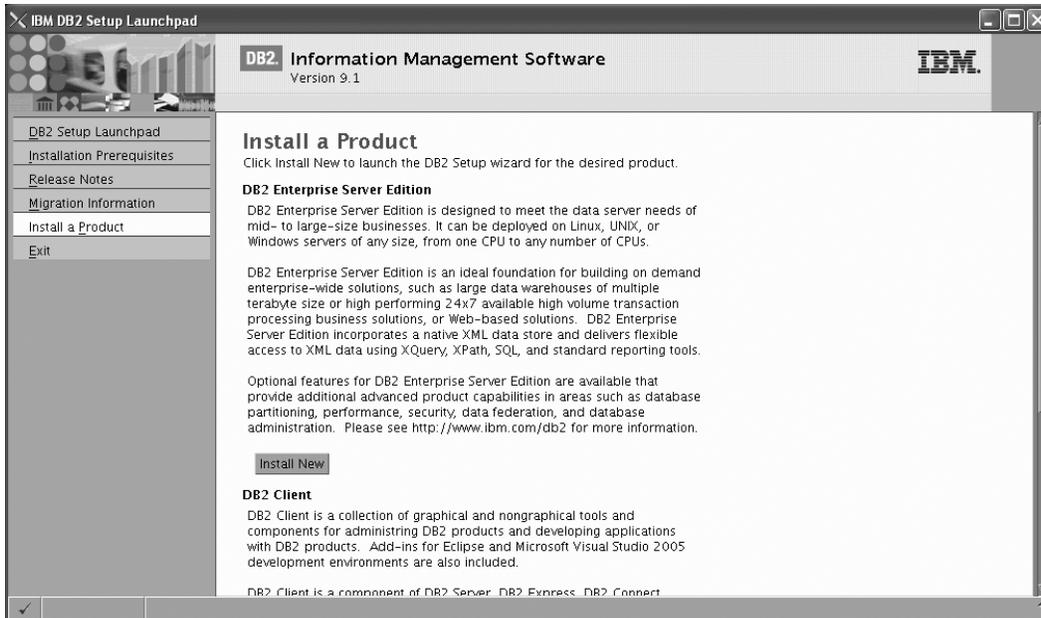


Figure 2. Install a Product page of the DB2 Setup Launchpad

7. On the "Install a Product" page of the "IBM DB2 Setup Launchpad", click the **Install New** button for **DB2 Enterprise Server Edition**
The "DB2 Setup wizard" opens.

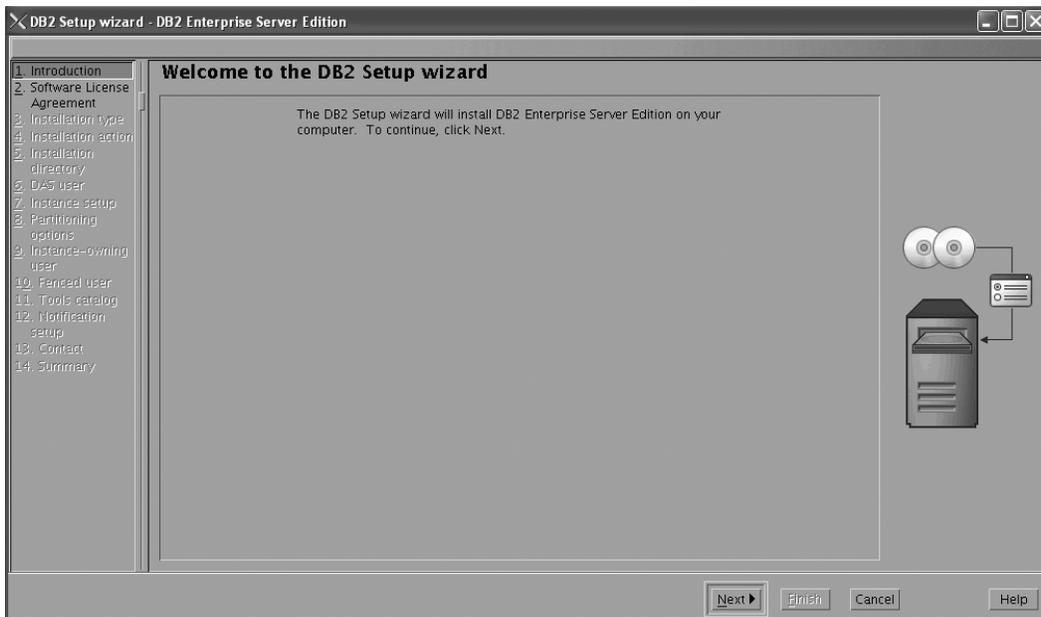


Figure 3. DB2 Setup wizard

8. Click **Next**. The "License Agreement" page opens.
9. On the "License Agreement" page:
 - a. After reviewing and agreeing to the license text, select the **Accept** radio button:

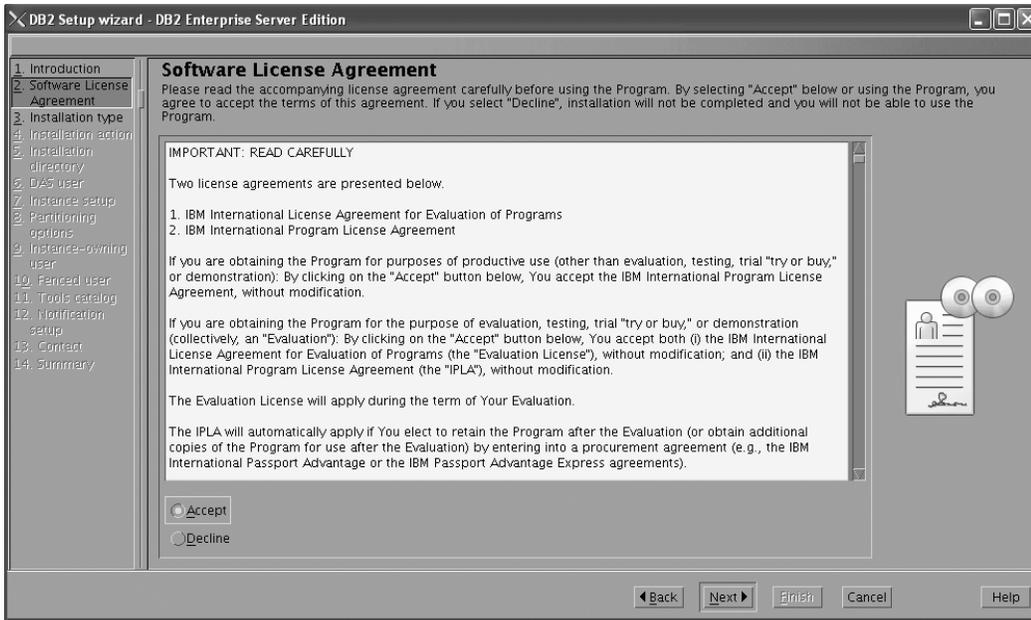


Figure 4. DB2 Setup wizard - Licence Agreement page

- b. Click **Next**. The "Select the installation type" page opens.
10. On the "Select the installation type" page:
 - a. Select the **Custom** radio button:

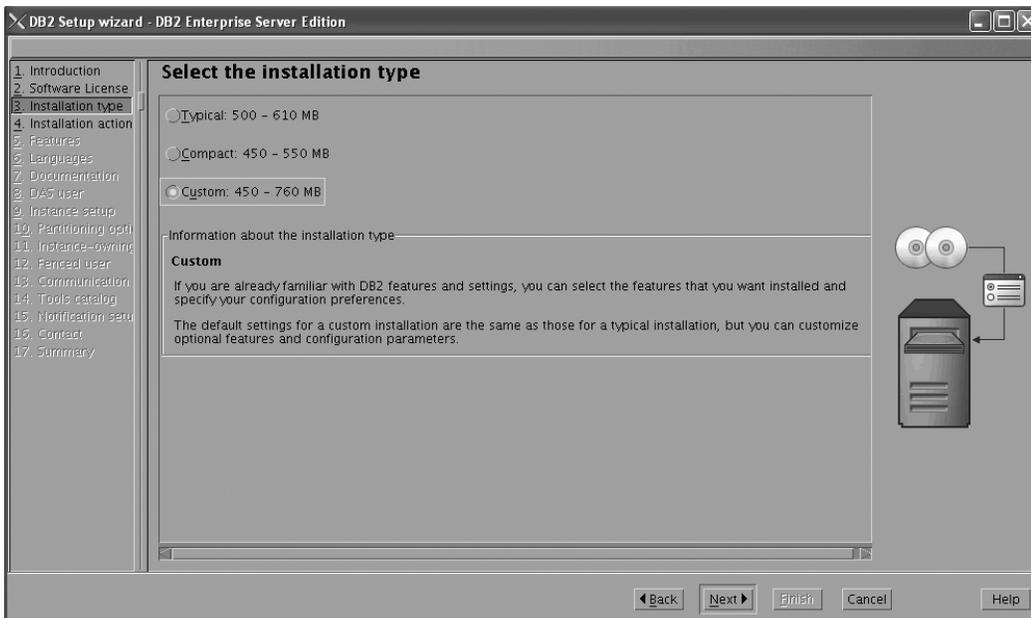


Figure 5. DB2 Setup wizard - Select the installation type page

- b. Click **Next**. The "Select the installation, response file creation, or both" page opens.
11. On the "Select the installation, response file creation, or both" page:
 - a. Select the **Install DB2 Enterprise Server Edition on this computer** radio button.

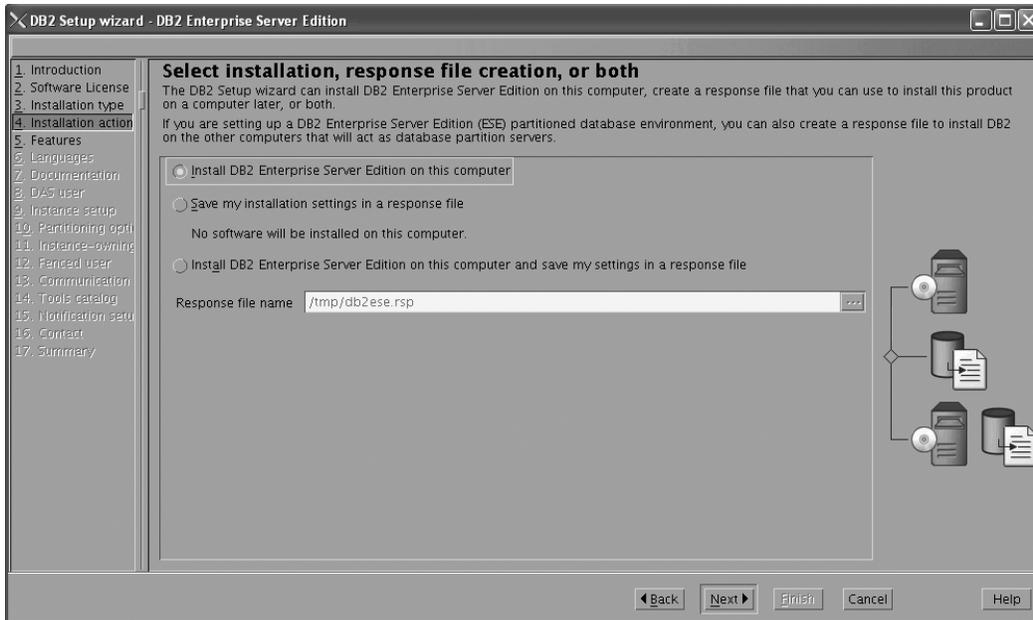


Figure 6. DB2 Setup wizard - Select the installation, response file creation, or both page

- b. Click **Next**. The "Select the features to install" page opens.

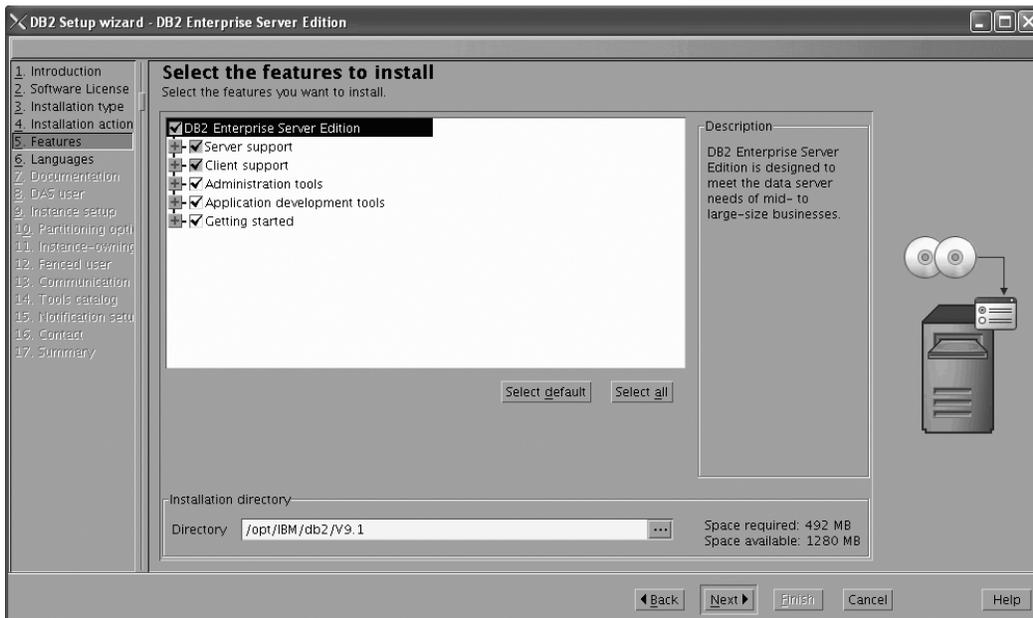


Figure 7. DB2 Setup wizard - Select the features to install page

12. On the "Select the features to install" page:
 - a. Open the + beside the **Client** feature.
 - b. Select the **DB2 LDAP support** feature to remove the check mark.

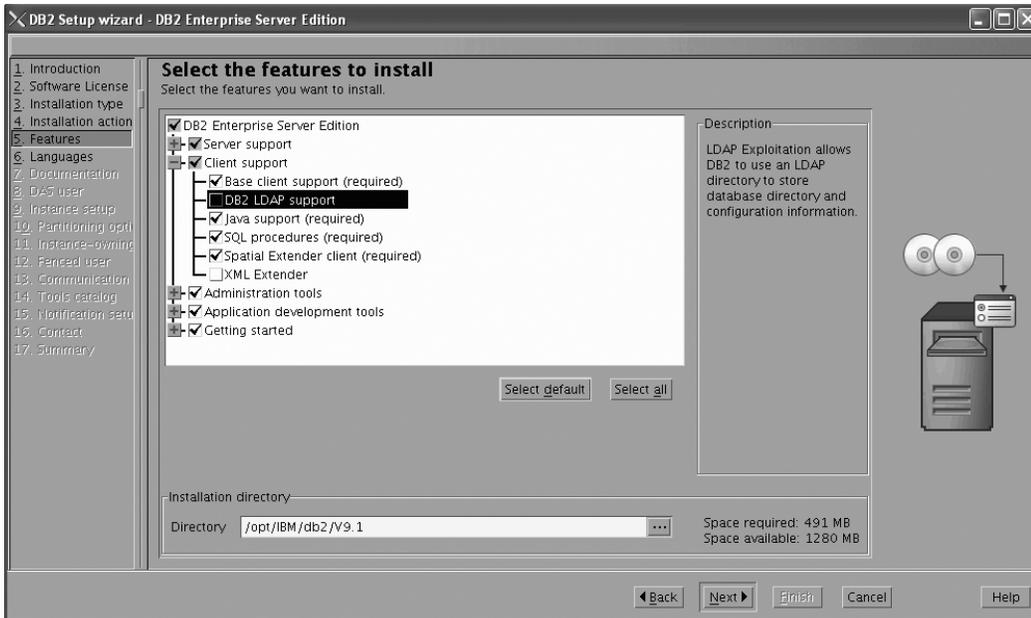


Figure 8. DB2 Setup wizard - Select the features to install page; DB2 LDAP support feature deselected for install

- c. Open the + beside **Administration tools**.
- d. Ensure that the following features under **Administration tools** are deselected for installation:
 - **DB2 Instance Setup wizard**
 - **DB2 Web Tools**



Figure 9. DB2 Setup wizard - Select the features to install page; Administration tools features deselected for install

- e. Open the + beside **Application development tools**.
- f. Ensure that the **ADT sample programs** feature and the **Spatial Extender samples** feature are deselected for installation.

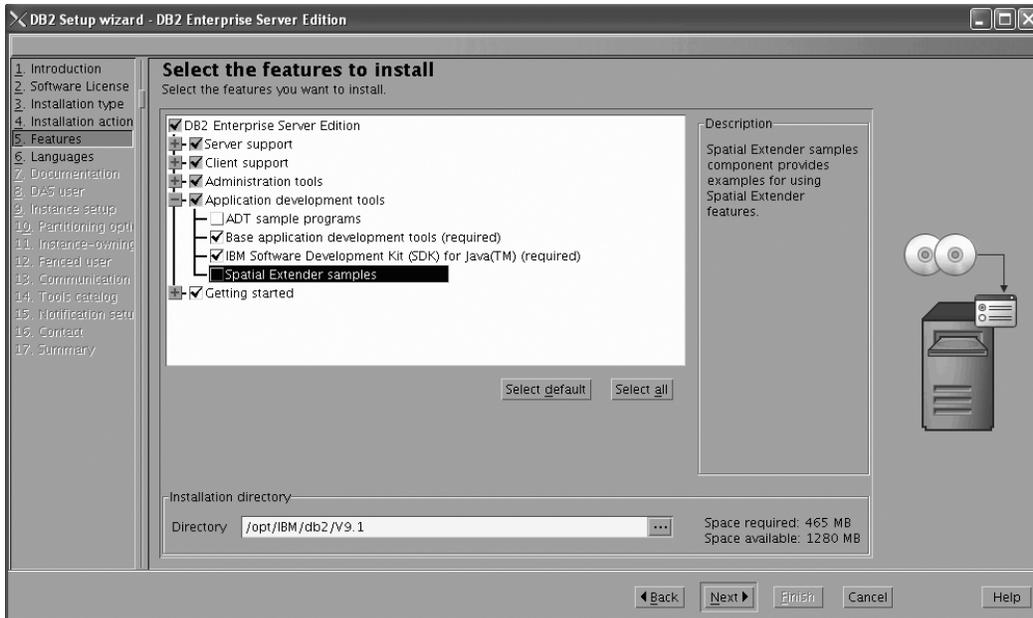


Figure 10. DB2 Setup wizard - Select the features to install page; Application development tools features deselected for installation

- g. Open the + beside **Getting started**.
- h. Ensure that the **First Steps** feature and the **XML Extender samples** feature are deselected for installation.

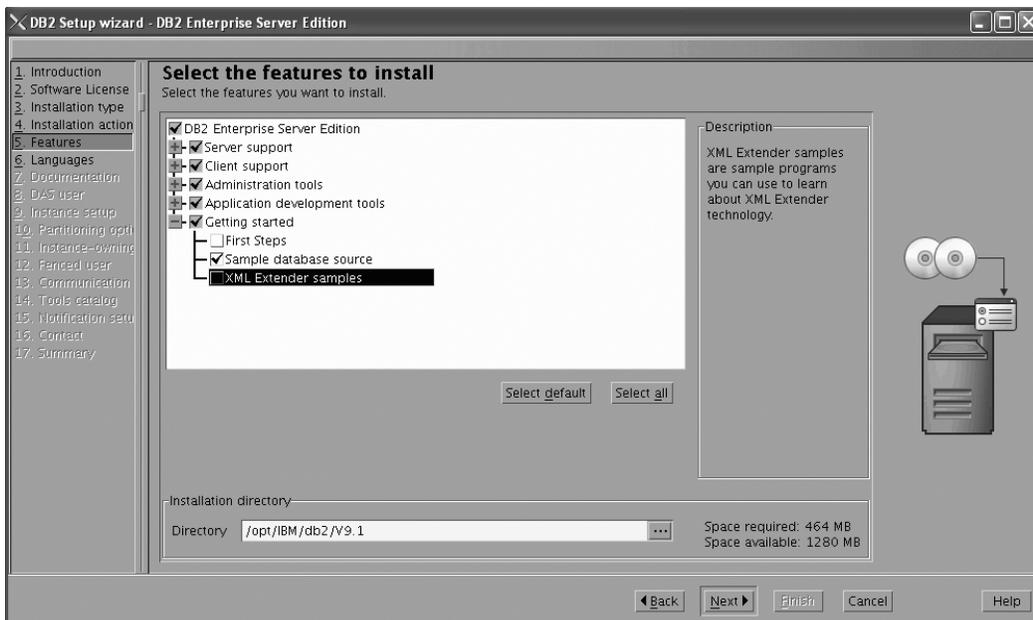


Figure 11. DB2 Setup wizard - Select the features to install page; Getting started features deselected for installation

- i. Click **Next**. The "Select the languages to install" page opens.
13. On the "Select the languages to install" page, English is the only language support that is installed by default.

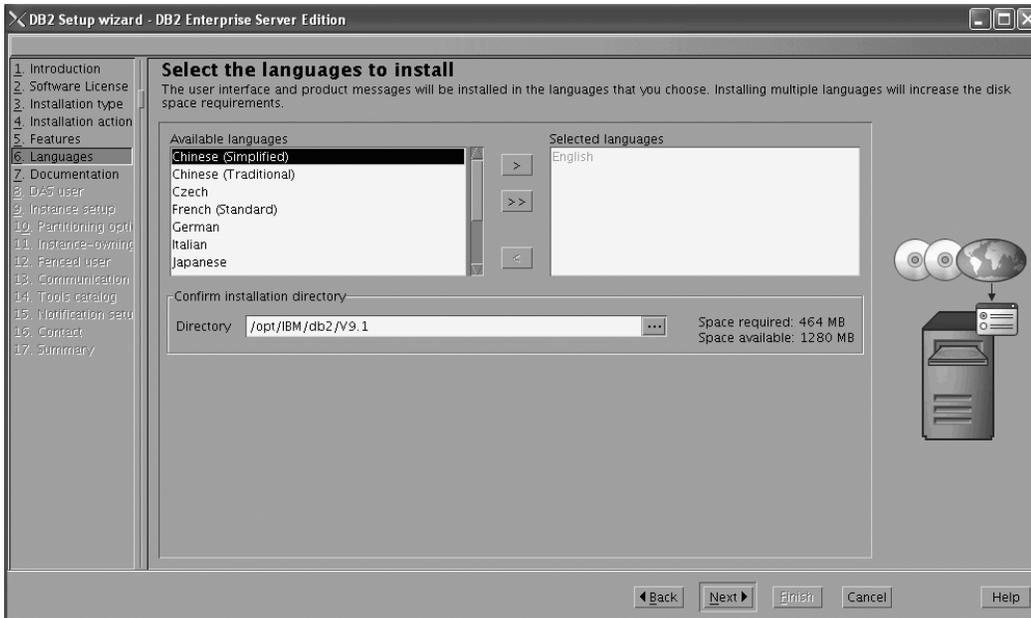


Figure 12. DB2 Setup wizard - Select the languages to install page; English language support selected for installation

14. Click **Next**. The "Specify the location of the DB2 Information Center" page opens.
15. On the "Specify the location of the DB2 Information Center" page:
 - a. Ensure that the **On the IBM Web site** radio button is selected.

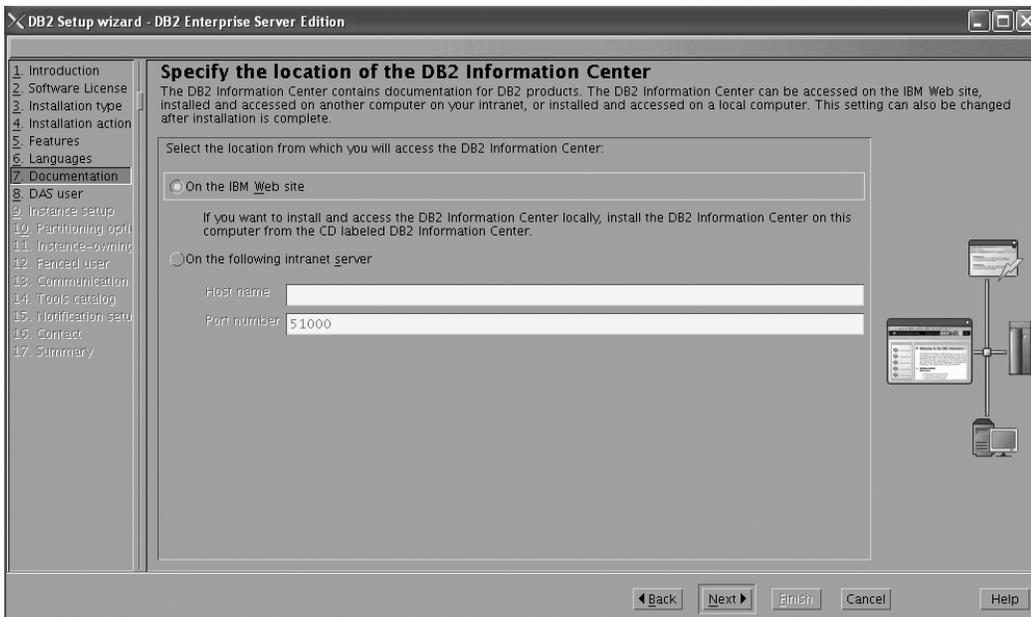


Figure 13. DB2 Setup wizard - Specify the location of the DB2 Information Center; On the IBM Web site option selected

- b. Click **Next**. The "Set user information for the DB2 Administration Server" page opens.
16. On the "Set user information for the DB2 Administration Server" page:
 - a. Select the **Existing user** radio button.

- b. Use the ... button to select the user previously defined for the DB2 Administration Server.

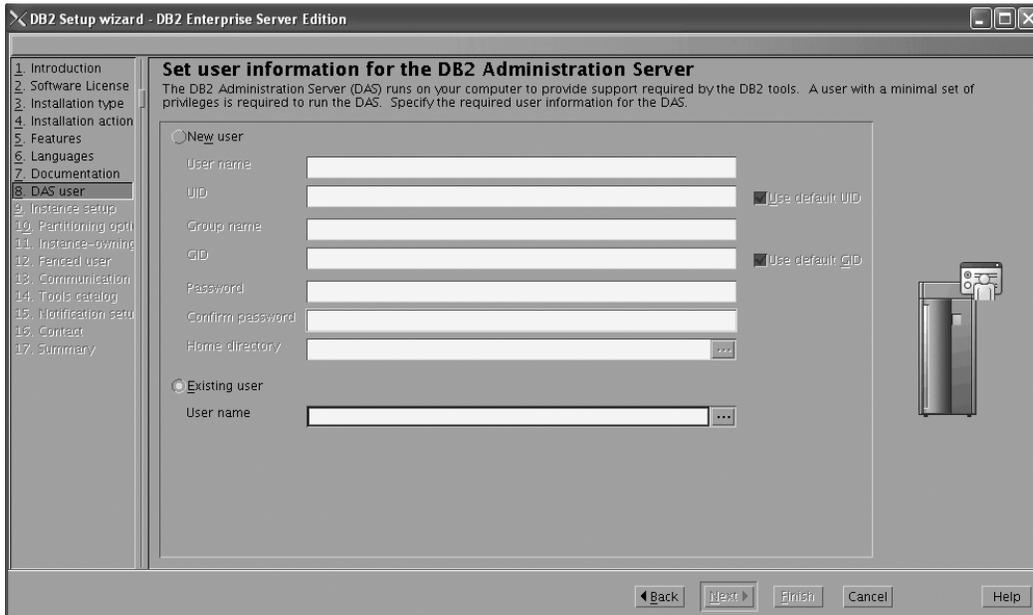


Figure 14. DB2 Setup wizard - Set user information for the DB2 Administration Server page

- c. Click Next. The "Set up a DB2 instance" page opens.
17. On the "Set up a DB2 instance" page:
 - a. Ensure that the **Create a DB2 instance** radio button is selected.

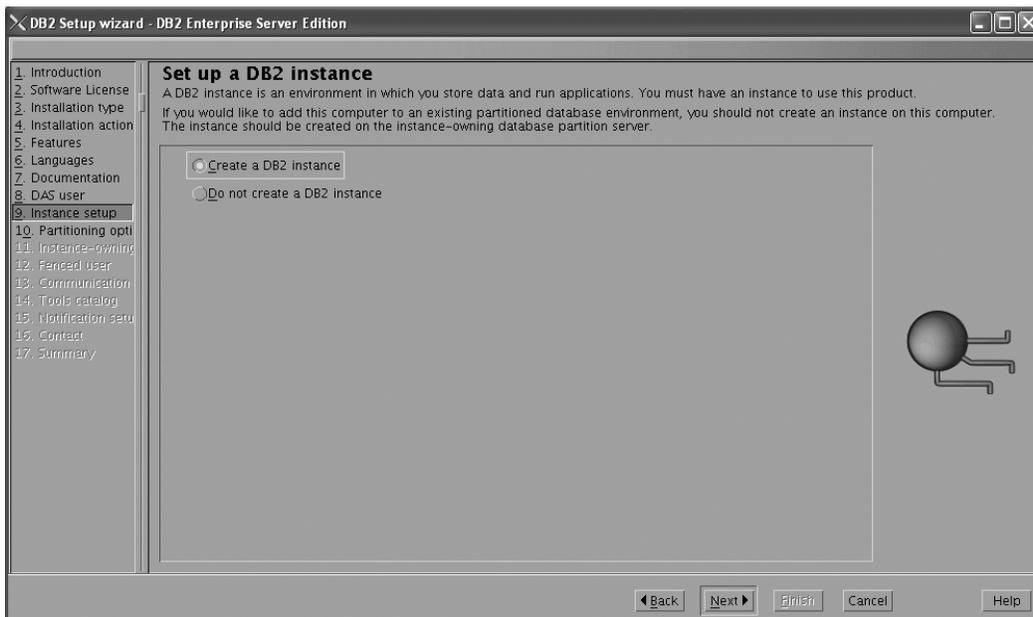


Figure 15. DB2 Setup wizard - Set up a DB2 instance page; Create a DB2 instance option selected

- b. Click Next. The "Set up partitioning options for the DB2 instance" page opens.
18. On the "Set up partitioning options for the DB2 instance" page:

- a. Ensure that the **Single partition instance** radio button is selected.

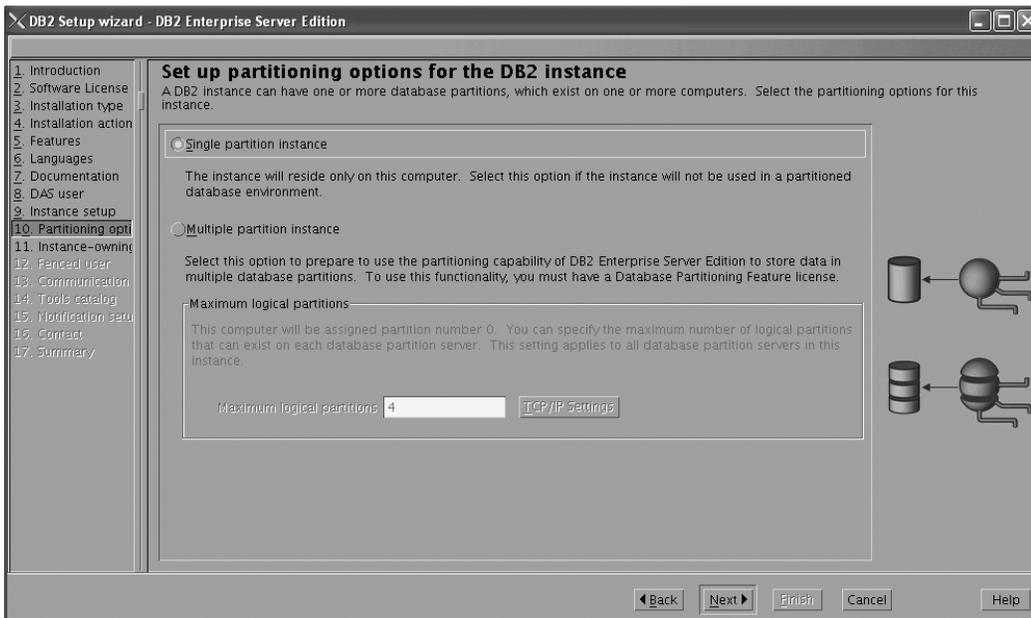


Figure 16. DB2 Setup wizard - Set up partitioning options for the DB2 instance page

- b. Click **Next**. The "Set user information for the DB2 instance owner" page opens.
19. On the "Set user information for the DB2 instance owner" page:
 - a. Select the **Existing user** radio button.
 - b. Use the ... button to select the user previously defined for the DB2 instance owner.

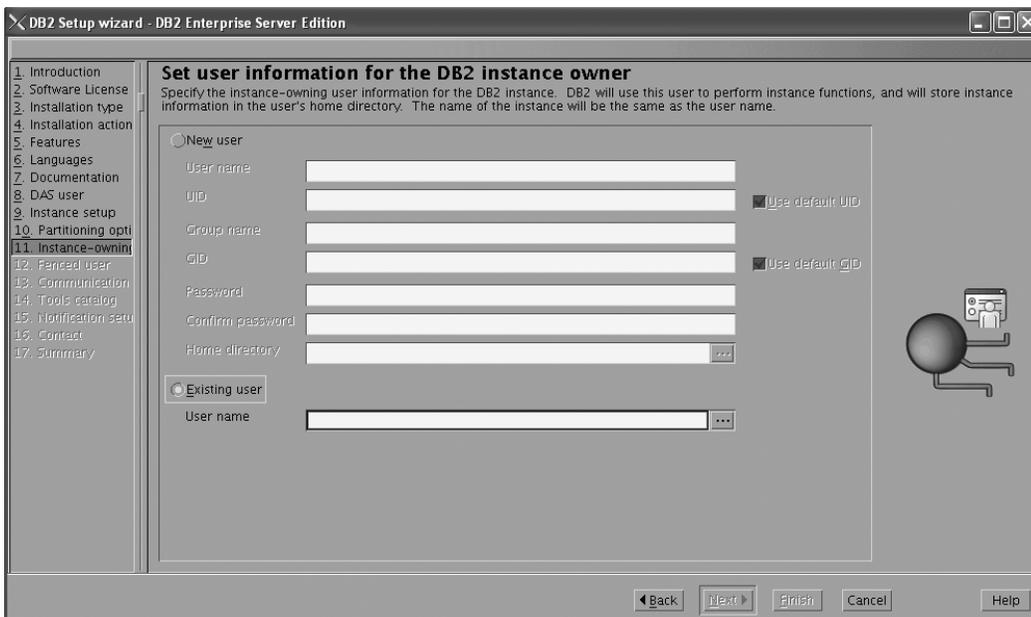


Figure 17. DB2 Setup wizard - Set user information for the DB2 instance owner page

- c. Click **Next**. The "Set user information for the fenced user" page opens.

20. On the "Set user information for the fenced user" page:
 - a. Select the **Existing user** radio button.
 - b. Use the ... button to select the user previously defined for the fenced user.

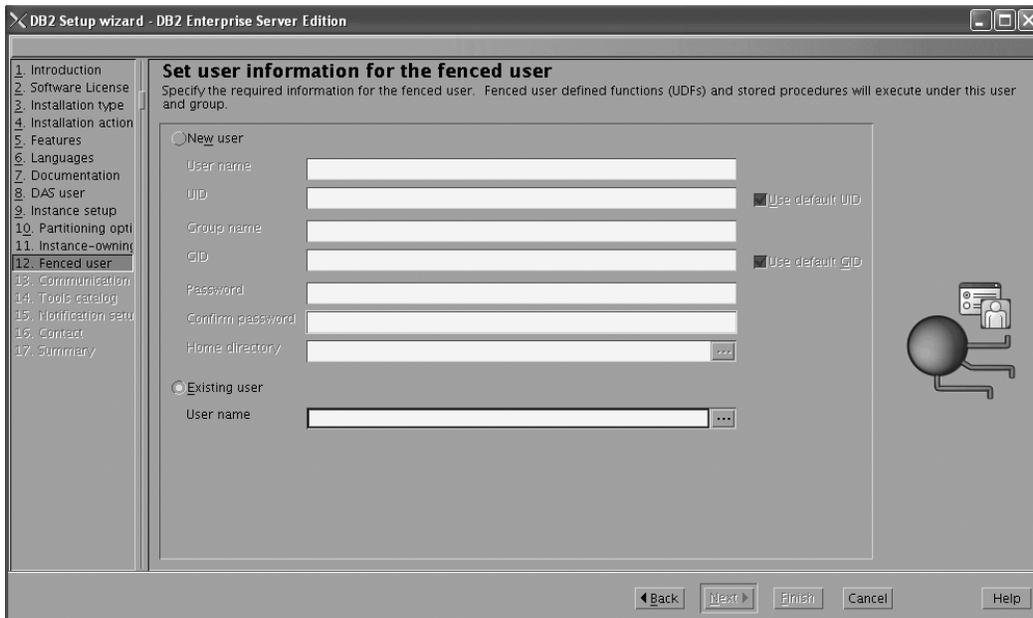


Figure 18. DB2 Setup wizard - Set user information for the fenced user page

- c. Click **Next**. The "Configure instance communication and startup" page opens.
21. On the "Configure instance communication and startup" page:
 - a. Select the **Configure** radio button.
 - b. Ensure that the **Autostart the instance at system startup** check box is deselected.

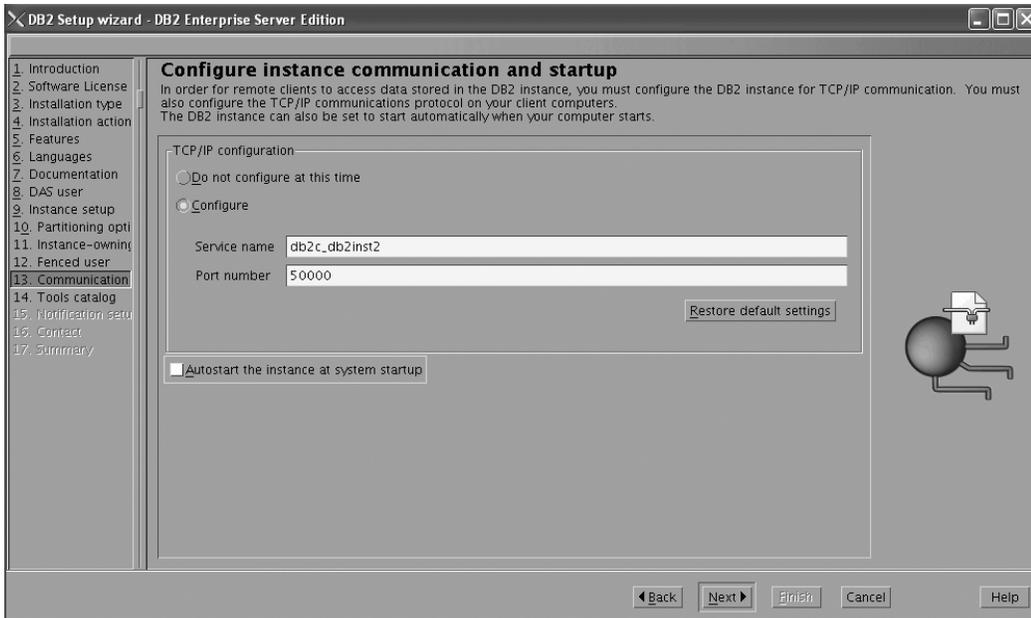


Figure 19. DB2 Setup wizard - Configure instance communication and startup page

- c. Click **Next**. The "Prepare the DB2 tools catalog" page opens.
22. On the "Prepare the DB2 tools catalog" page:
 - a. Select the **Do not prepare the DB2 tools catalog** radio button.

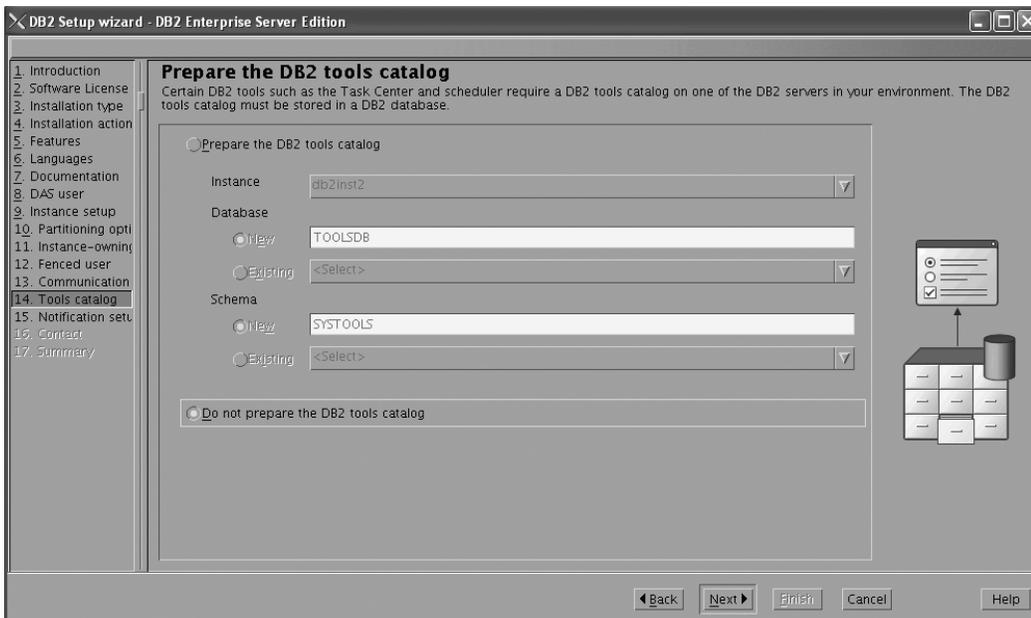


Figure 20. DB2 Setup wizard - Prepare the DB2 tools catalog page

- b. Click **Next**. The "Set up notifications" page opens.
23. On the "Set up notifications" page:
 - a. Select the **Do not set up your DB2 server to send notifications at this time** radio button.

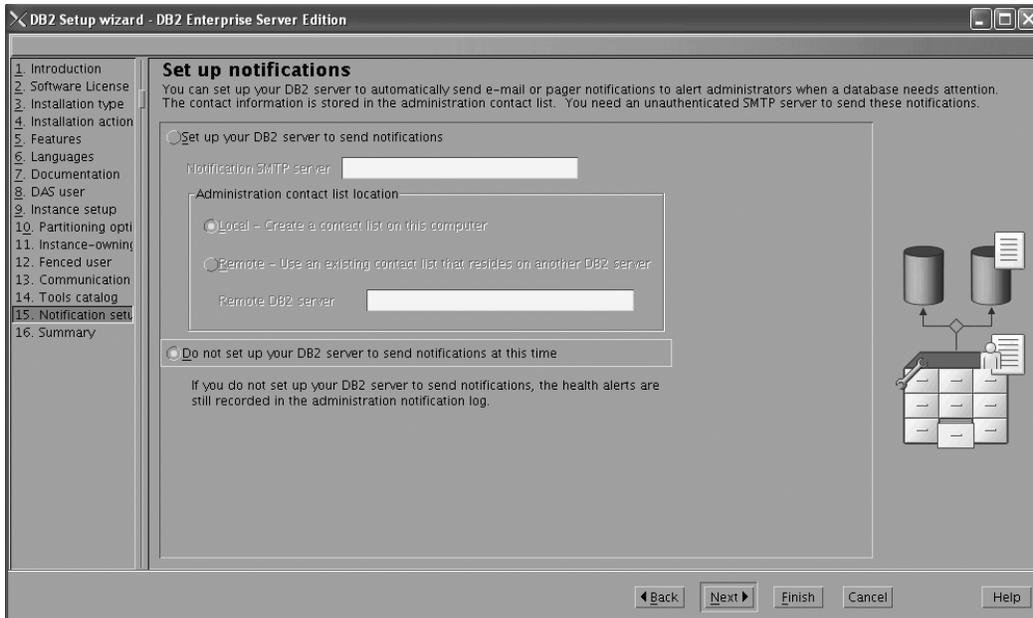


Figure 21. DB2 Setup wizard - Set up notifications page

b. Click **Next**. The "Start copying files" page opens.

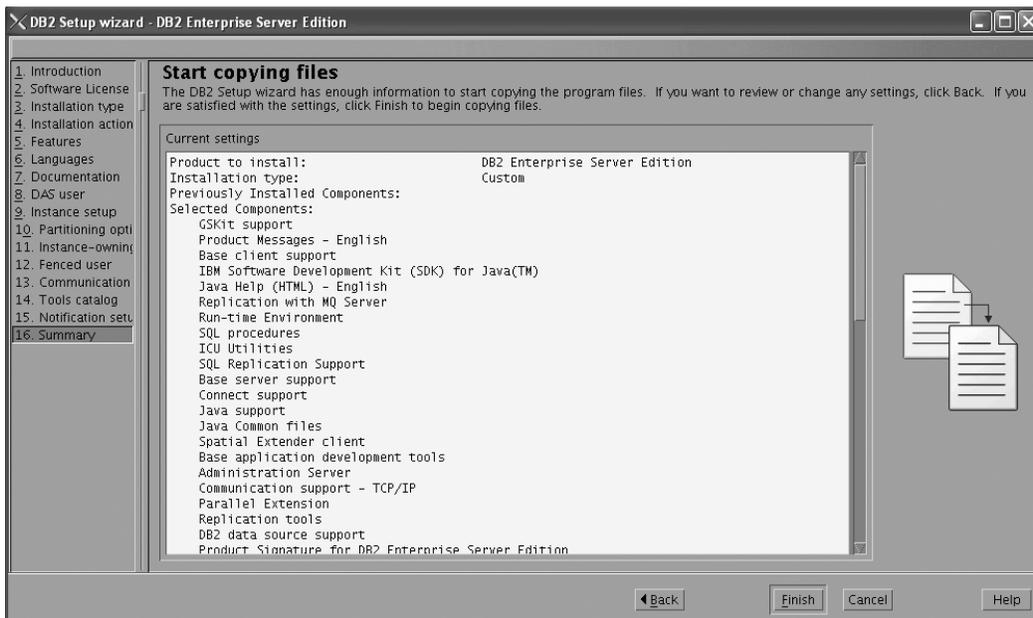


Figure 22. DB2 Setup wizard - Start copying files page

24. On the "Start copying files" page, click **Finish** to begin installing DB2 on your computer.
The "Installing DB2 Enterprise Server Edition" page opens.

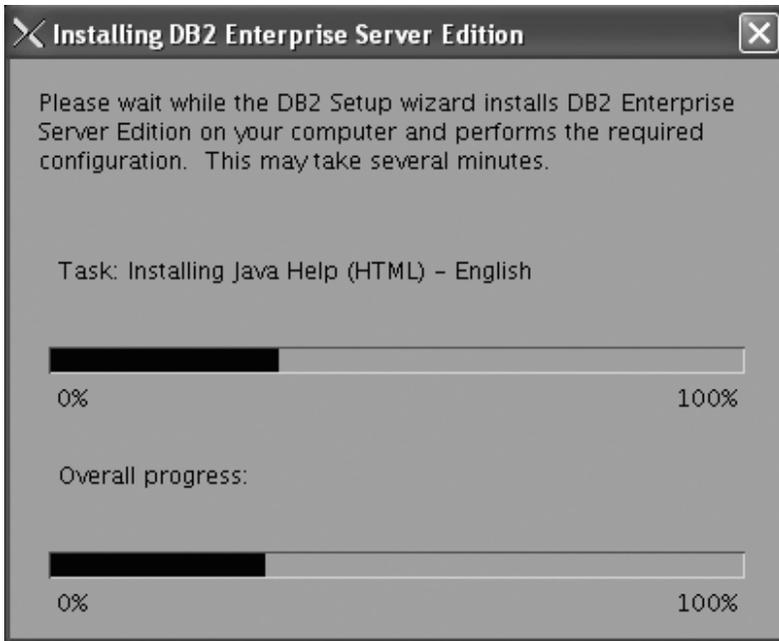


Figure 23. Installing DB2 Enterprise Server Edition page

When the installation completes, the "Setup Complete" page opens.

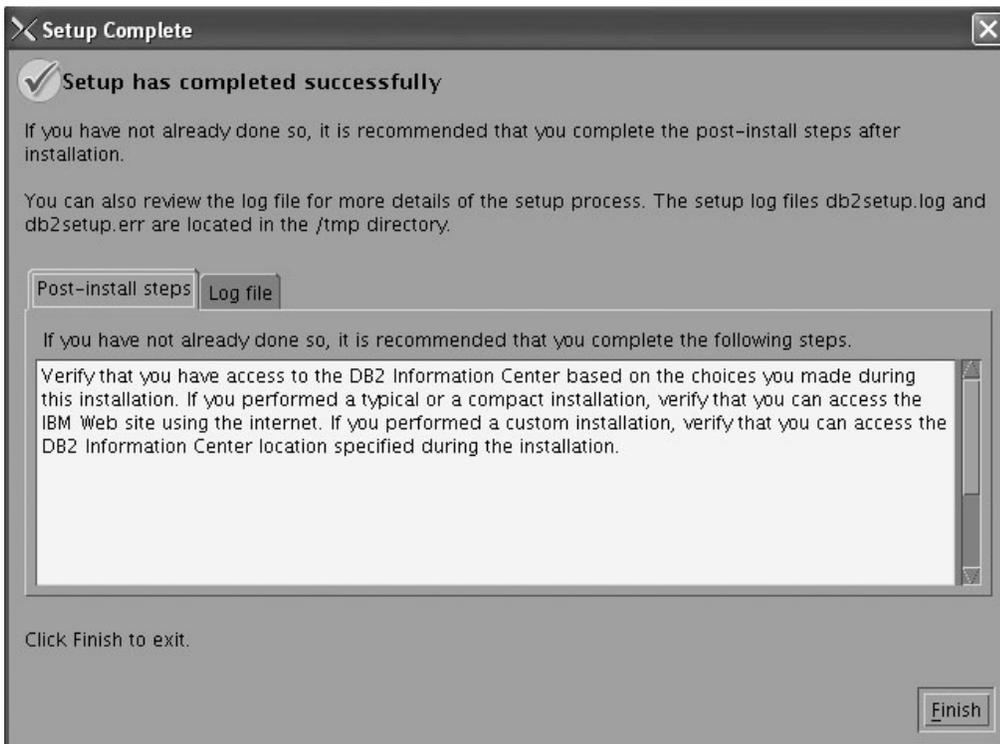


Figure 24. Setup Complete page

Click **Finish** to exit.

25. Activate the license files. See the topic " Registering a DB2 product or feature license key using the db2licm command".

After DB2 Enterprise 9 is installed, see the topic on configuring DB2 to be Common Criteria compliant in the *IBM DB2 Common Criteria Certification: Administration and User Documentation* book.

Installing DB2 Enterprise 9 on SuSE Linux Enterprise Server 9 for a single-partition Common Criteria compliant installation

This task provides detailed instructions on installing DB2 Enterprise 9 on SuSE Linux Enterprise Server 9 for a Common Criteria compliant installation.

Prerequisites:

- The prerequisites listed in "Installation requirements for DB2 clients and servers (Linux)" must be met.
- The computer on which you install DB2 must be physically protected from untrusted users.
- SuSE Linux Enterprise Server 9 must be installed on the computer.
- You must have the file `v9fp1_linuxx64_ese.tar.gz` downloaded to the directory of your choice. This file is available from the DB2 9 download site (<http://ibm.com/software/data/db2/udb/support/downloadv9.html>).
- You must have downloaded the applicable activation files from the Passport Advantage site to the same directory. You require these files to activate Enterprise 9 after installation. The instance owner must have read/write authority on this directory.
 - One of the following:
 - `DB2_Enterp_Svr_Auth_User_Activation.zip`. Required to activate DB2 Enterprise 9 if you purchase DB2 Enterprise 9 on a per user basis.
 - `DB2_Enterprise_Svr_Ed_CPU_Activation.zip`. Required to activate DB2 Enterprise 9 if you purchase DB2 Enterprise 9 on a per CPU basis.
 - `DB2_Advanced_Access_Cntrl_Activation.zip`. Required to activate label-based access control (LBAC).
- The user names to be used for the following:
 - The DB2 instance owner
 - The DB2 Administration Server
 - The fenced user

If you do not have these user names, obtain them from your system administrator. For more information about these users, see "DB2 users and groups (Linux and UNIX)" on page 26. For information about creating these users, see "Creating group and user IDs for a DB2 database installation (Linux and UNIX)" on page 30.

The topic "Installing DB2 servers (Linux and UNIX)" provides an overview of installing on Linux and UNIX-based platforms.

Procedure:

Use the following steps to install DB2 Enterprise 9 on SuSE Linux Enterprise Server 9 for a Common Criteria compliant environment.

1. Log on to the system as a user with root authority.
2. Decompress the product file:
`gzip -d v9fp1_linuxx64_ese.tar.gz`
3. Untar the product file:

- ```
tar xvf v9fp1_linuxx64_ese.tar
```
4. Change directory:  
`cd $HOME/ese/disk1`
  5. Issue the `./db2setup` command to open the "IBM DB2 Setup Launchpad" at the "Welcome" page:



Figure 25. Welcome page of the DB2 Setup Launchpad

6. On the "Welcome" page of the "IBM DB2 Setup Launchpad", click **Install a Product** to open the "Install a Product" page.

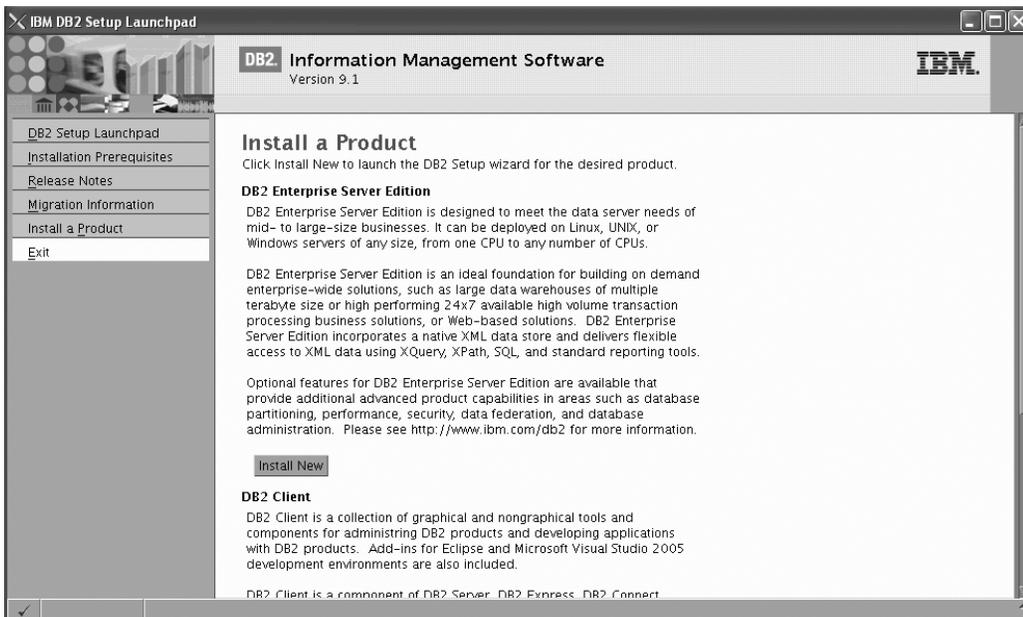


Figure 26. Install a Product page of the DB2 Setup Launchpad

7. On the "Install a Product" page of the "IBM DB2 Setup Launchpad", click the **Install New** button for **DB2 Enterprise Server Edition**  
The "DB2 Setup wizard" opens.

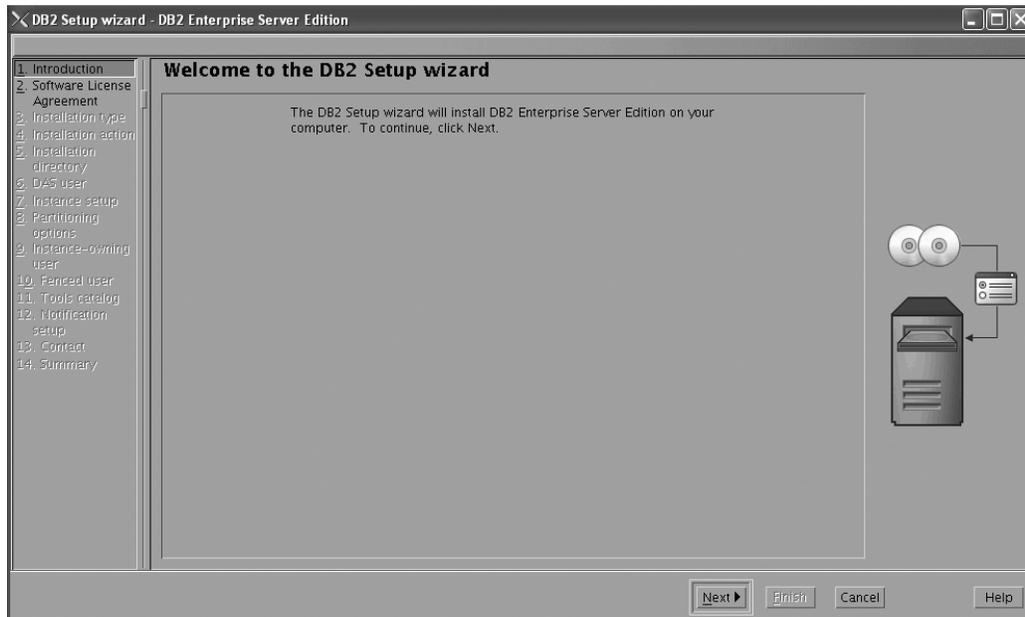


Figure 27. DB2 Setup wizard

8. Click **Next**. The "License Agreement" page opens.
9. On the "License Agreement" page:
  - a. After reviewing and agreeing to the license text, select the **Accept** radio button:

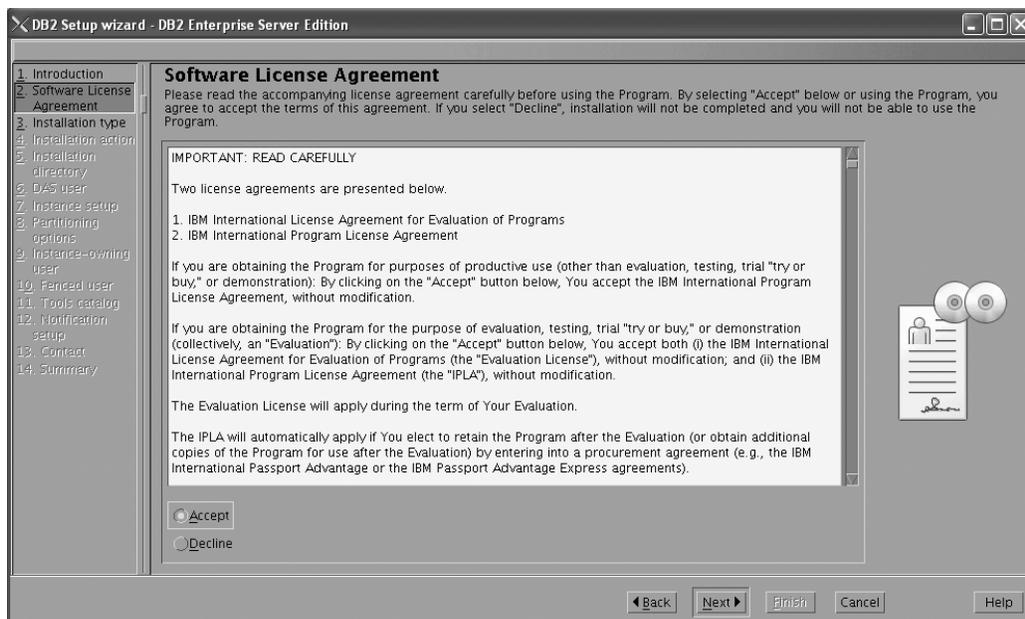


Figure 28. DB2 Setup wizard - Licence Agreement page

- b. Click **Next**. The "Select the installation type" page opens.

10. On the "Select the installation type" page:
  - a. Select the **Custom** radio button:

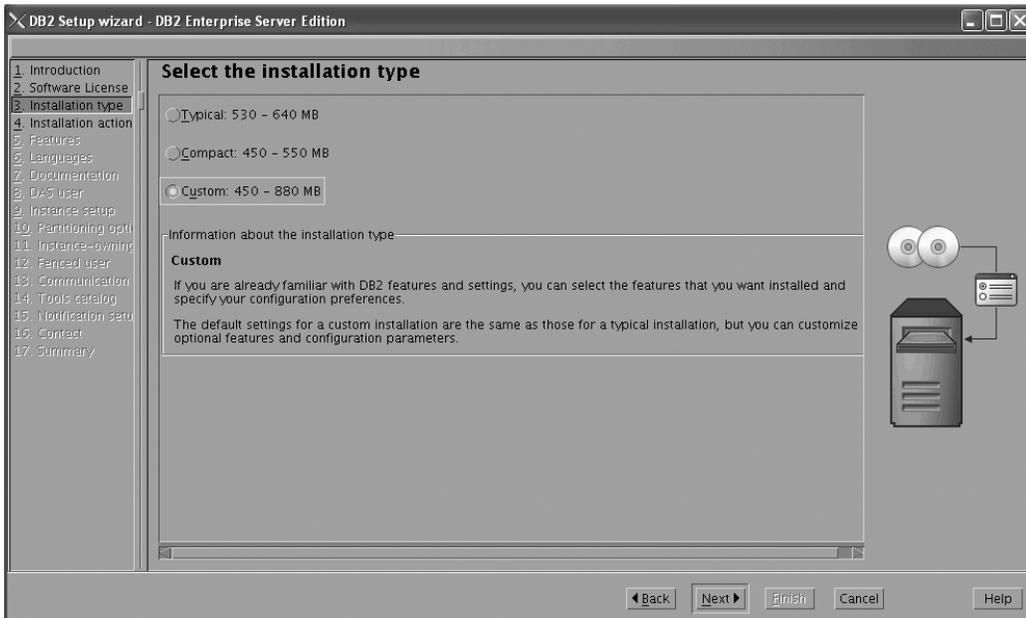


Figure 29. DB2 Setup wizard - Select the installation type page

- b. Click **Next**. The "Select the installation, response file creation, or both" page opens.
11. On the "Select the installation, response file creation, or both" page:
  - a. Select the **Install DB2 Enterprise Server Edition on this computer** radio button.

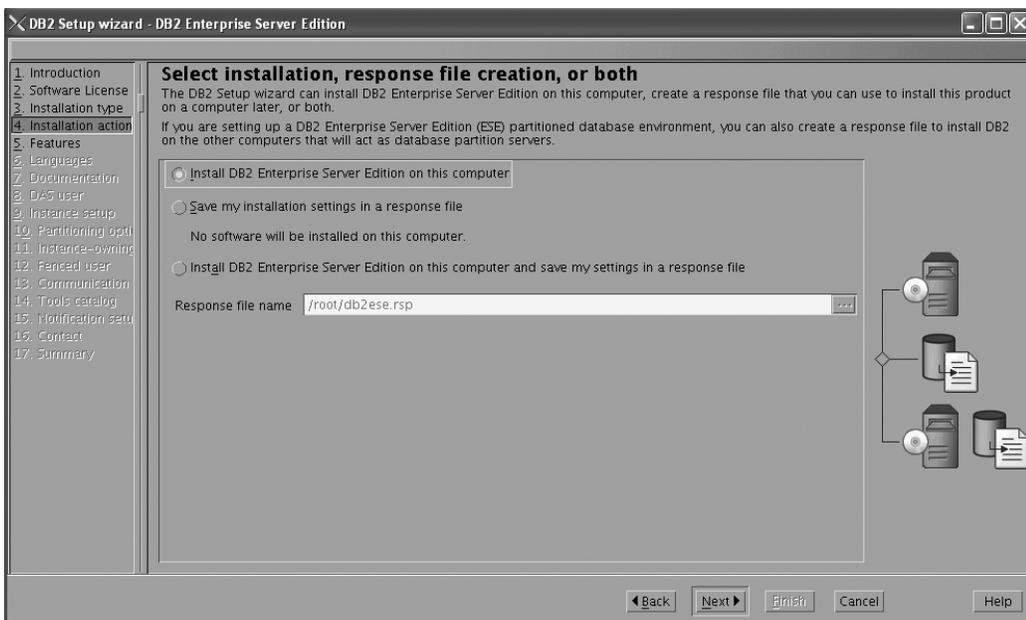


Figure 30. DB2 Setup wizard - Select the installation, response file creation, or both page

b. Click **Next**. The "Select the features to install" page opens.

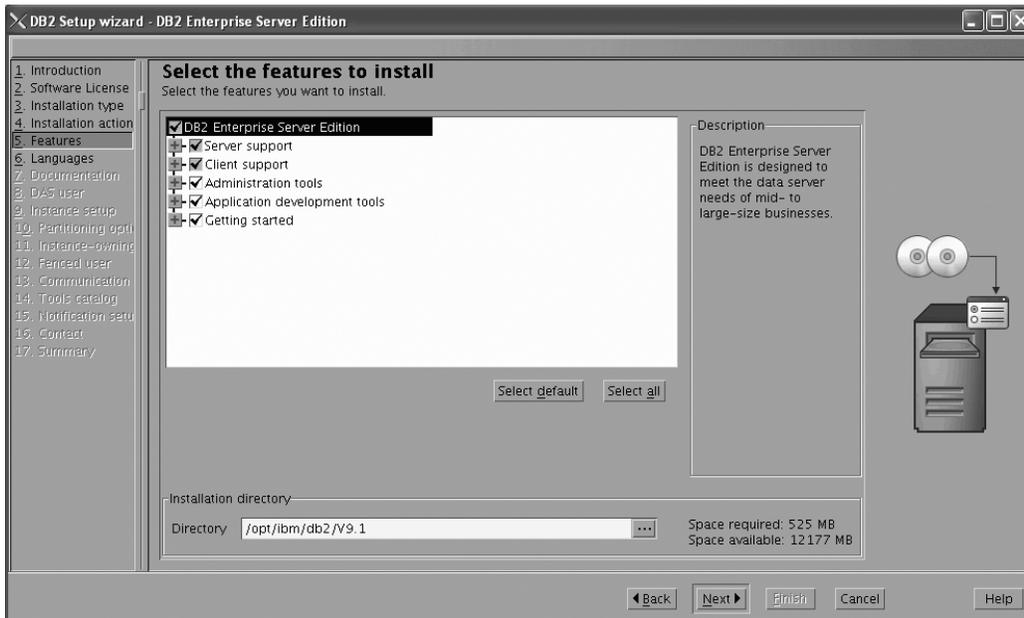


Figure 31. DB2 Setup wizard - Select the features to install page

12. On the "Select the features to install" page:
  - a. Open the + beside **Client**.
  - b. Select the **DB2 LDAP support** feature to remove the check mark.

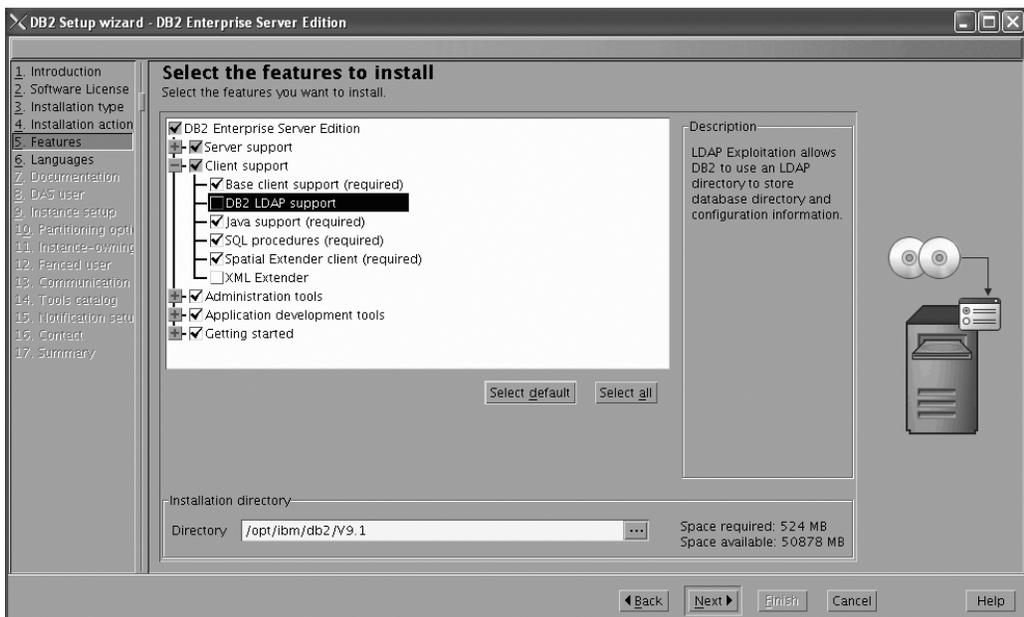


Figure 32. DB2 Setup wizard - Select the features to install page; DB2 LDAP support feature deselected for install

- c. Open the + beside **Administration tools**.
- d. Ensure that the following features under **Administration tools** are deselected for installation:
  - **Configuration Assistant**

**Note:** The **Configuration Assistant** feature must be deselected after the **Control Center** feature.

- **Control Center**
- **DB2 Instance Setup Wizard**
- **DB2 Web Tools**

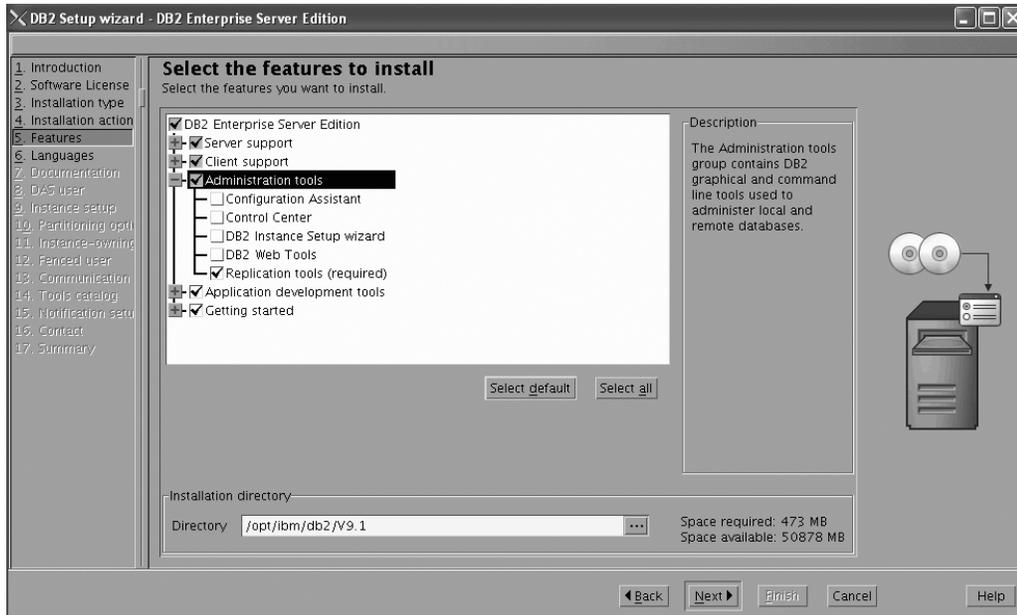


Figure 33. DB2 Setup wizard - Select the features to install page; Administration tools features deselected for install

- Open the + beside **Application development tools**.
- Ensure that the **ADT sample programs** feature and the **Spatial Extender samples** feature are deselected for installation.

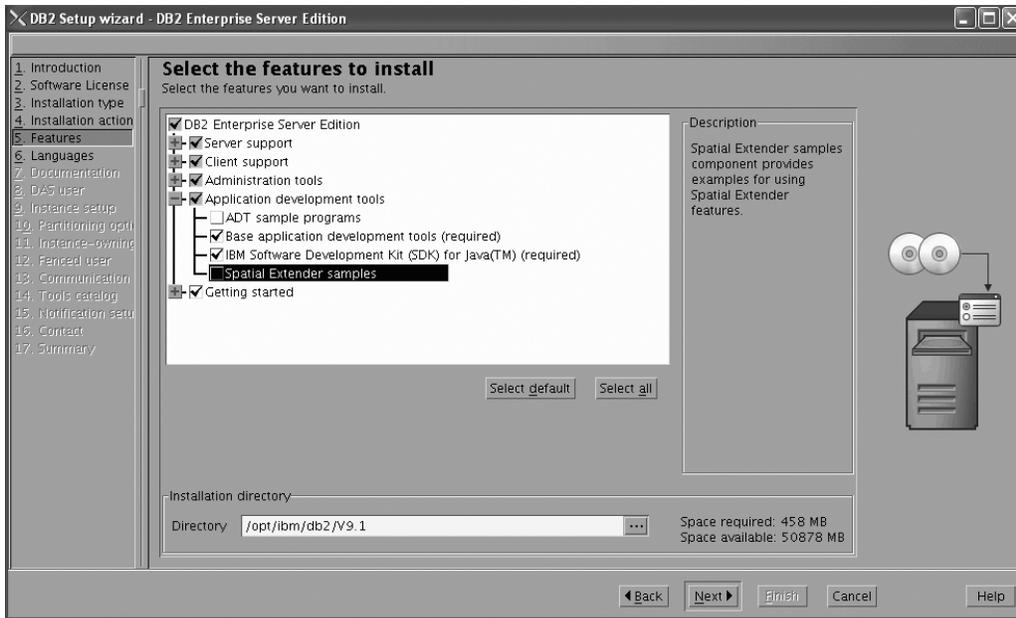


Figure 34. DB2 Setup wizard - Select the features to install page; Application development tools features deselected for installation

- g. Open the + beside **Getting started**.
- h. Ensure that the **First Steps** feature and the **XML Extender samples** feature are deselected for installation.

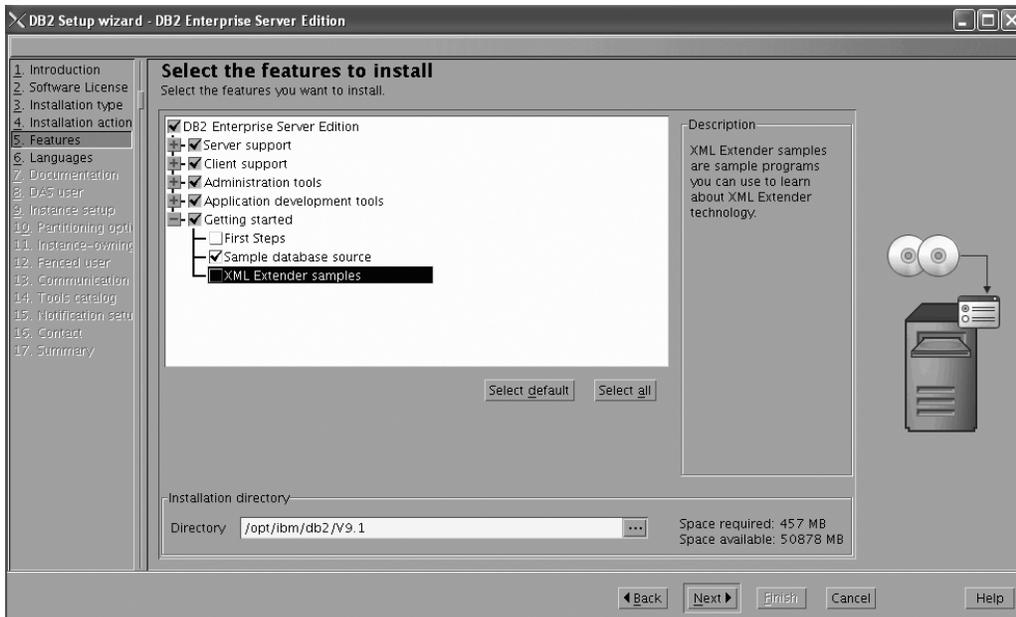


Figure 35. DB2 Setup wizard - Select the features to install page; Getting started features deselected for installation

- i. Click **Next**. The "Select the languages to install" page opens.
- 13. On the "Select the languages to install" page, English is the only language support that is installed by default.

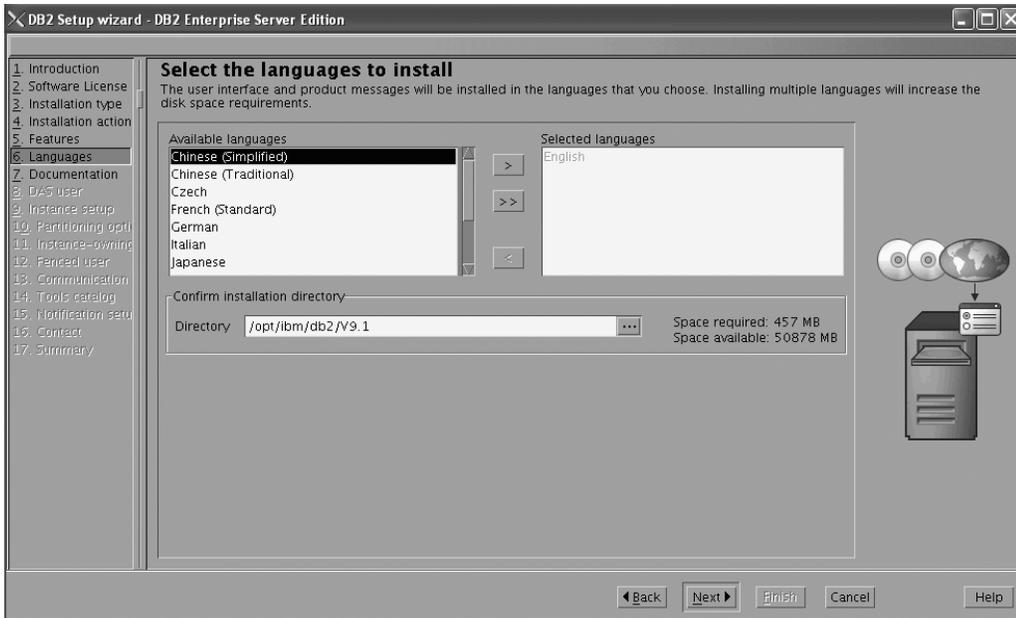


Figure 36. DB2 Setup wizard - Select the languages to install page; English language support selected for installation

14. Click **Next**. The "Specify the location of the DB2 Information Center" page opens.
15. On the "Specify the location of the DB2 Information Center" page:
  - a. Ensure that the **On the IBM Web site** radio button is selected.

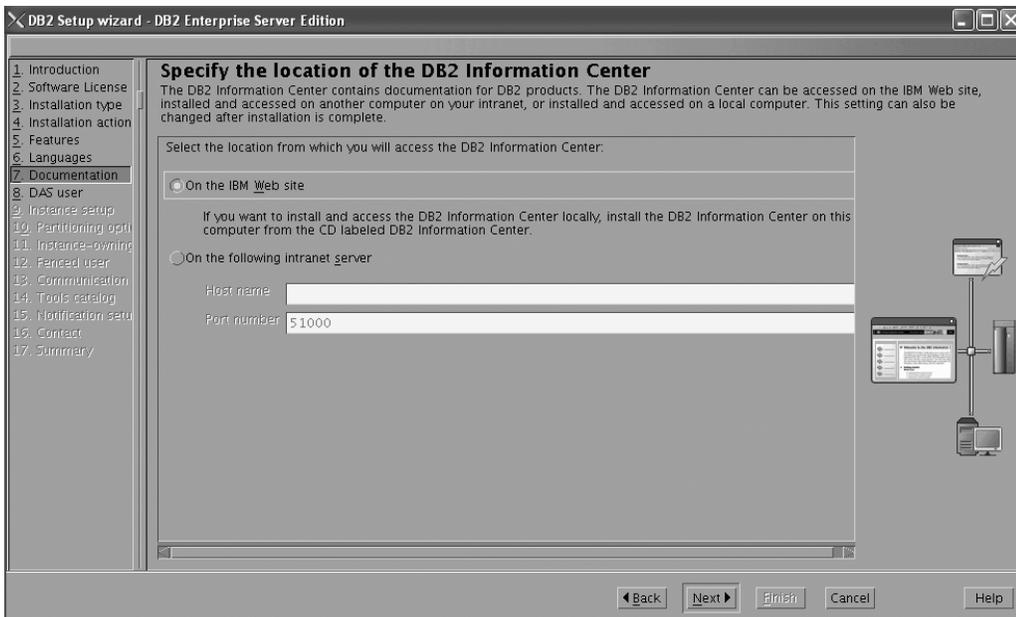


Figure 37. DB2 Setup wizard - Specify the location of the DB2 Information Center; On the IBM Web site option selected

- b. Click **Next**. The "Set user information for the DB2 Administration Server" page opens.
16. On the "Set user information for the DB2 Administration Server" page:
  - a. Select the **Existing user** radio button list.

- b. Use the ... button to select the user previously defined for the DB2 Administration Server.

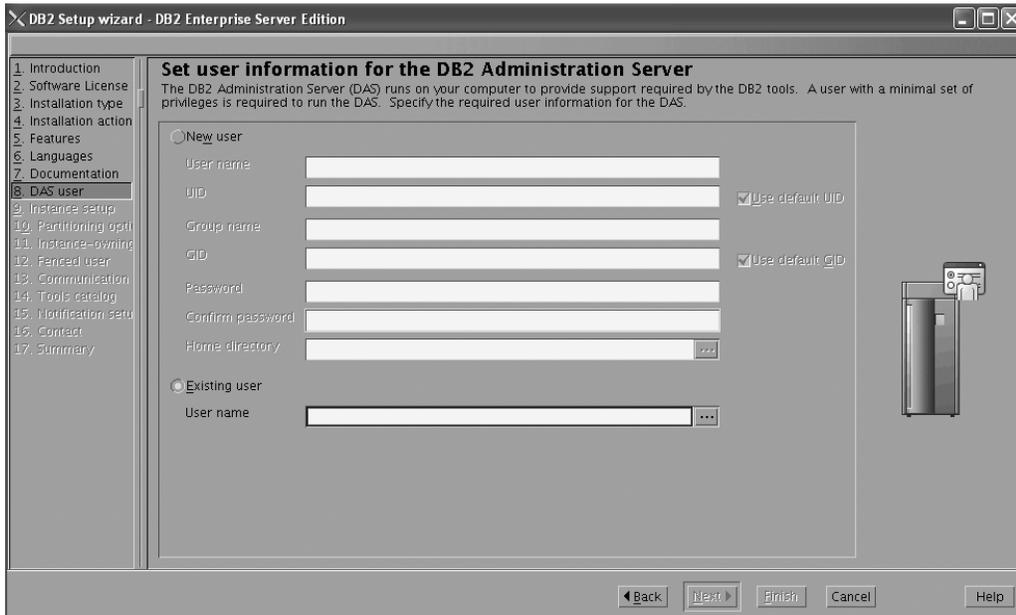


Figure 38. DB2 Setup wizard - Set user information for the DB2 Administration Server page

- c. Click **Next**. The "Set up a DB2 instance" page opens.
17. On the "Set up a DB2 instance" page:
    - a. Ensure that the **Create a DB2 instance** radio button is selected.

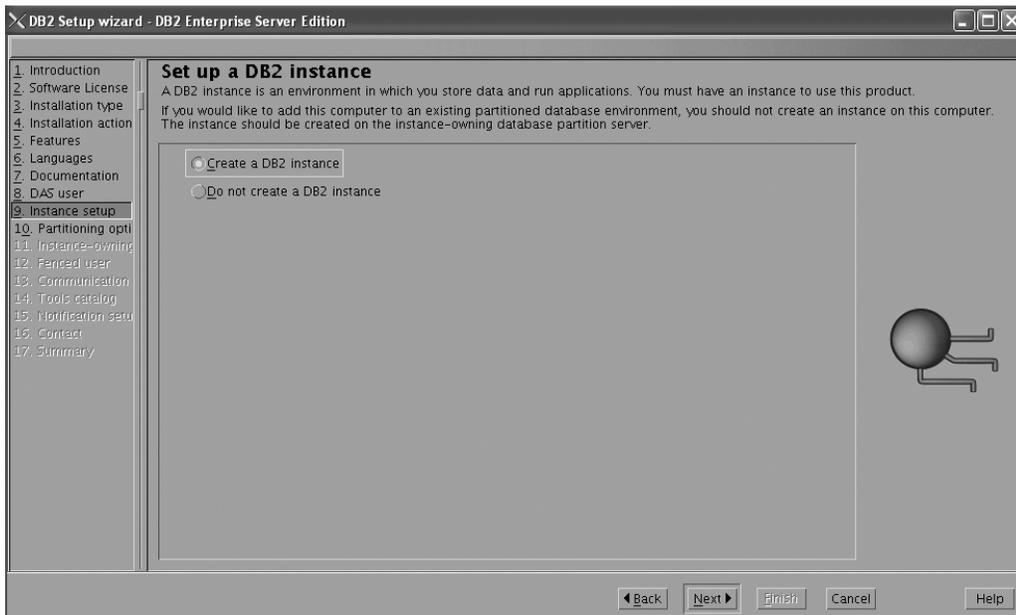


Figure 39. DB2 Setup wizard - Set up a DB2 instance page; Create a DB2 instance option selected

- b. Click **Next**. The "Set up partitioning options for the DB2 instance" page opens.
18. On the "Set up partitioning options for the DB2 instance" page:

- a. Ensure that the **Single partition instance** radio button is selected.

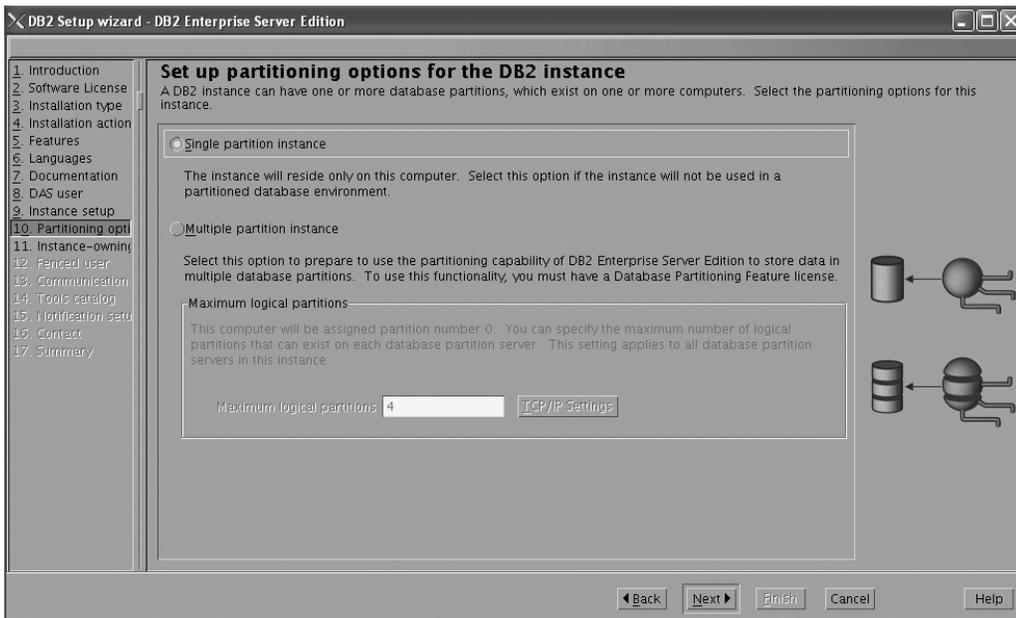


Figure 40. DB2 Setup wizard - Set up partitioning options for the DB2 instance page

- b. Click **Next**. The "Set user information for the DB2 instance owner" page opens.
19. On the "Set user information for the DB2 instance owner" page:
    - a. Select the **Existing user** radio button list.
    - b. Use the ... button to select the user previously defined for the DB2 instance owner.

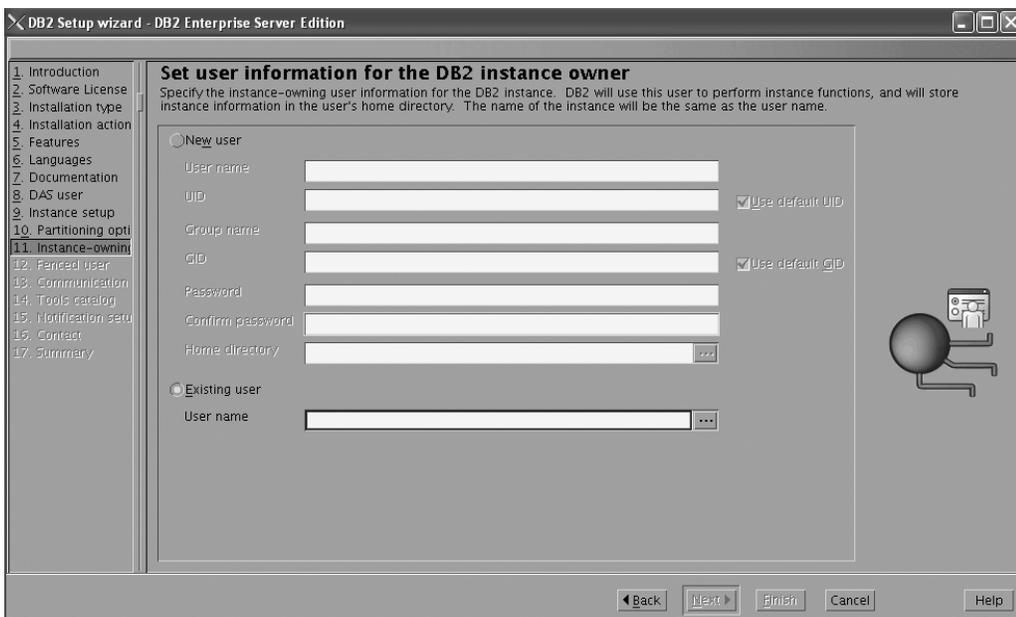


Figure 41. DB2 Setup wizard - Set user information for the DB2 instance owner page

- c. Click **Next**. The "Set user information for the fenced user" page opens.

20. On the "Set user information for the fenced user" page:
  - a. Select the **Existing user** radio button list.
  - b. Use the ... button to select the user previously defined for the fenced user.

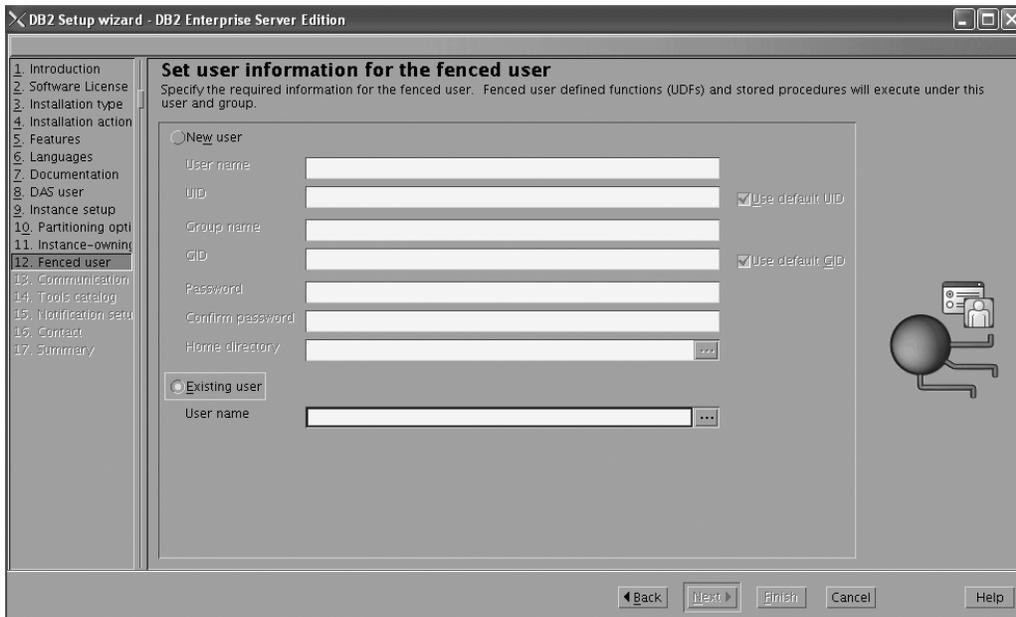


Figure 42. DB2 Setup wizard - Set user information for the fenced user page

- c. Click **Next**. The "Configure instance communication and startup" page opens.
21. On the "Configure instance communication and startup" page:
  - a. Select the **Configure** radio button.
  - b. Ensure that the **Autostart the instance at system startup** check box is deselected.

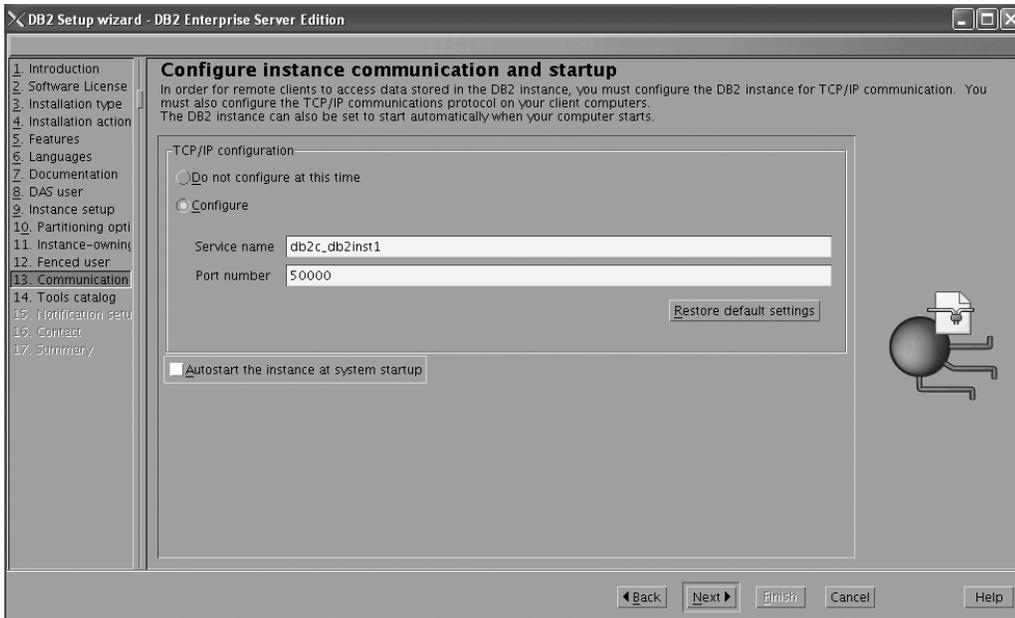


Figure 43. DB2 Setup wizard - Configure instance communication and startup page

- c. Click **Next**. The "Prepare the DB2 tools catalog" page opens.
22. On the "Prepare the DB2 tools catalog" page:
  - a. Select the **Do not prepare the DB2 tools catalog** radio button.

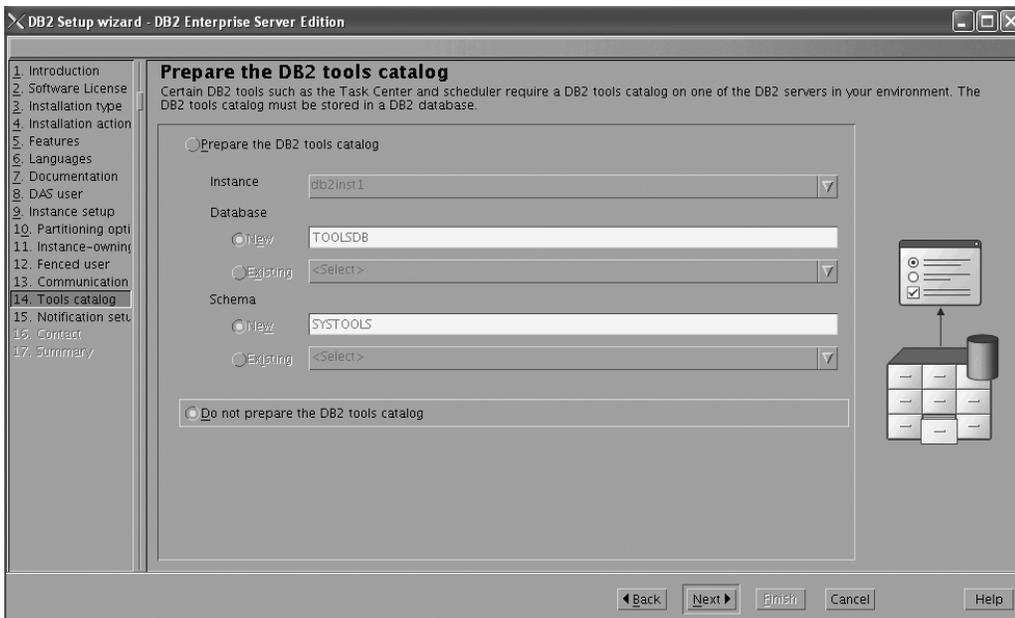


Figure 44. DB2 Setup wizard - Prepare the DB2 tools catalog page

- b. Click **Next**. The "Set up notifications" page opens.
23. On the "Set up notifications" page:
  - a. Select the **Do not set up your DB2 server to send notifications at this time** radio button.



Figure 45. DB2 Setup wizard - Set up notifications page

b. Click **Next**. The "Start copying files" page opens.

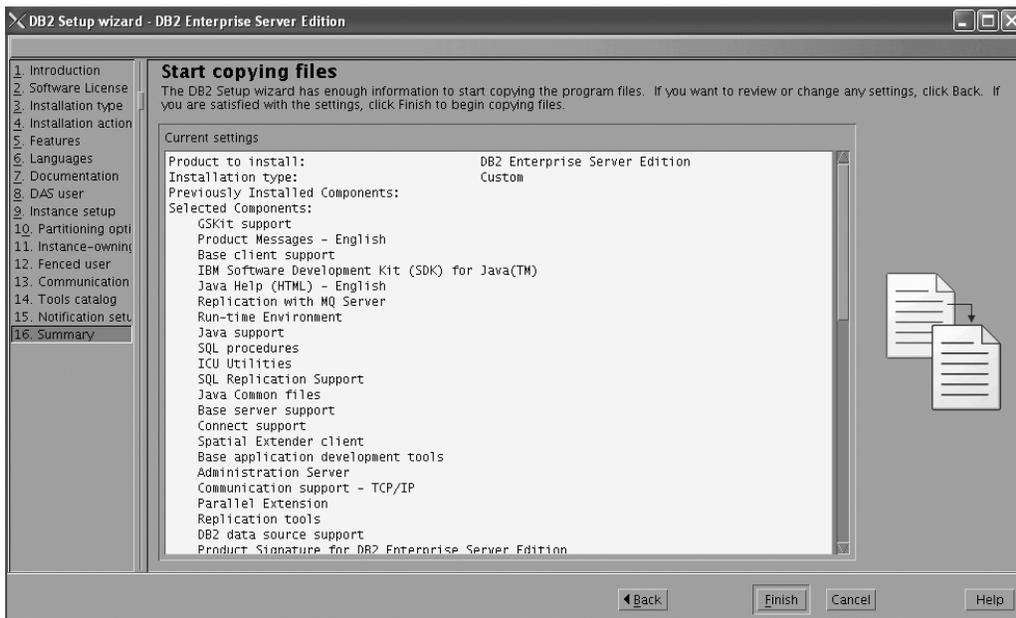


Figure 46. DB2 Setup wizard - Start copying files page

24. On the "Start copying files" page, click **Finish** to begin installing DB2 on your computer.  
The "Installing DB2 Enterprise Server Edition" page opens.

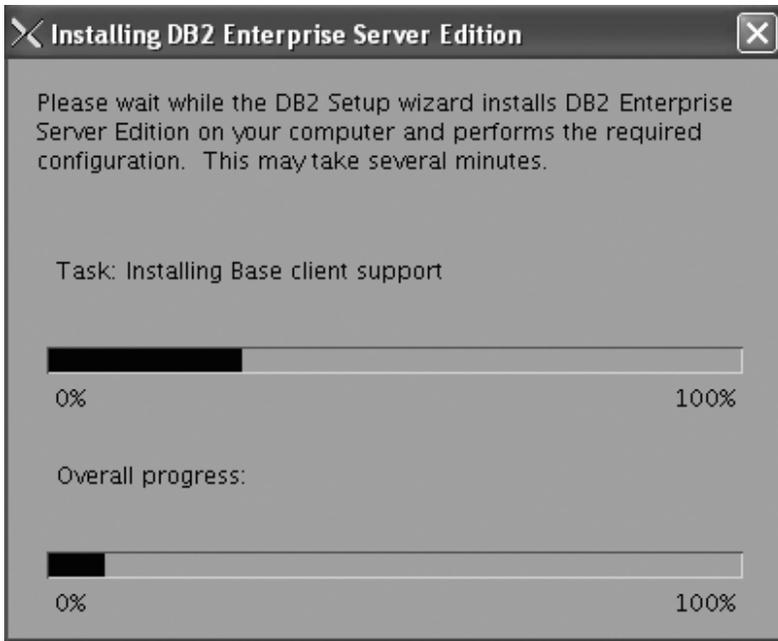


Figure 47. Installing DB2 Enterprise Server Edition page

When the installation completes, the "Setup Complete" page opens.

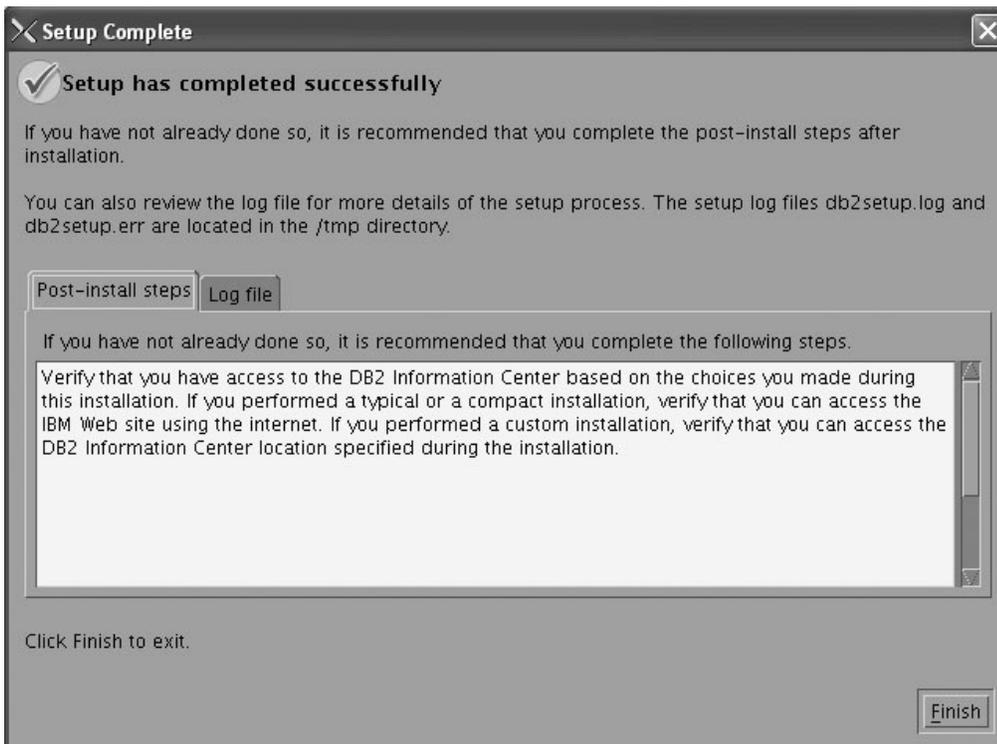


Figure 48. Setup Complete page

Click **Finish** to exit.

25. Activate the license files. See the topic " Registering a DB2 product or feature license key using the db2licm command".

After DB2 Enterprise 9 is installed, see the topic on configuring DB2 to be Common Criteria compliant in the *IBM DB2 Common Criteria Certification: Administration and User Documentation* book.

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## Installing DB2 Enterprise 9 on Solaris 9 for a single-partition Common Criteria compliant installation

This task provides detailed instructions on installing DB2 Enterprise 9 on Solaris 9 for a Common Criteria compliant installation.

### Prerequisites:

- The prerequisites listed in "Installation requirements for DB2 clients and servers (Solaris Operating System)" must be met.
- The computer on which you install DB2 must be physically protected from untrusted users.
- Solaris 9 must be installed on the computer.
- You must have the file `v9fp1_sunos_ese.tar.gz` downloaded to the directory of your choice. This file is available from the DB2 9 download site (<http://ibm.com/software/data/db2/udb/support/downloadv9.html>).
- You must have downloaded the applicable activation files from the Passport Advantage site to the same directory. You require these files to activate Enterprise 9 after installation. The instance owner must have read/write authority on this directory.
  - One of the following:
    - `DB2_Enterp_Svr_Auth_User_Activation.zip`. Required to activate DB2 Enterprise 9 if you purchase DB2 Enterprise 9 on a per user basis.
    - `DB2_Enterprise_Svr_Ed_CPU_Activation.zip`. Required to activate DB2 Enterprise 9 if you purchase DB2 Enterprise 9 on a per CPU basis.
    - `DB2_Advanced_Access_Cntrl_Activation.zip`. Required to activate label-based access control (LBAC).
- The user names to be used for the following:
  - The DB2 instance owner
  - The DB2 Administration Server
  - The fenced user

If you do not have these user names, obtain them from your system administrator. For more information about these users, see "DB2 users and groups (Linux and UNIX)" on page 26. For information about creating these users, see "Creating group and user IDs for a DB2 database installation (Linux and UNIX)" on page 30.

The topic "Installing DB2 servers (Linux and UNIX)" provides an overview of installing on Linux and UNIX-based platforms.

### Procedure:

Use the following steps to install DB2 Enterprise 9 on Solaris 9 for a Common Criteria compliant environment.

1. Log on to the system as a user with root authority.
2. Decompress the product file:  
`gzip -d v9fp1_sunos_ese.tar.gz`
3. Untar the product file:

- ```
tar xvf v9fp1_sunos_ese.tar
```
4. Change directory:
`cd $HOME/ese/disk1`
 5. Issue the `./db2setup` command to open the "IBM DB2 Setup Launchpad" at the "Welcome" page:

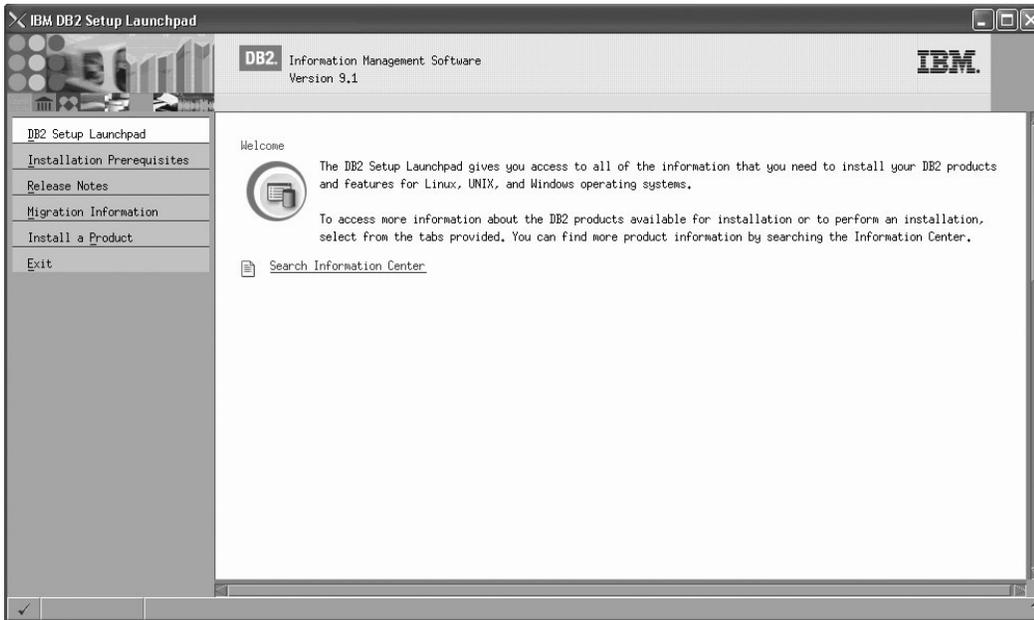


Figure 49. Welcome page of the DB2 Setup Launchpad

6. On the "Welcome" page of the "IBM DB2 Setup Launchpad", click **Install a Product** to open the "Install a Product" page.

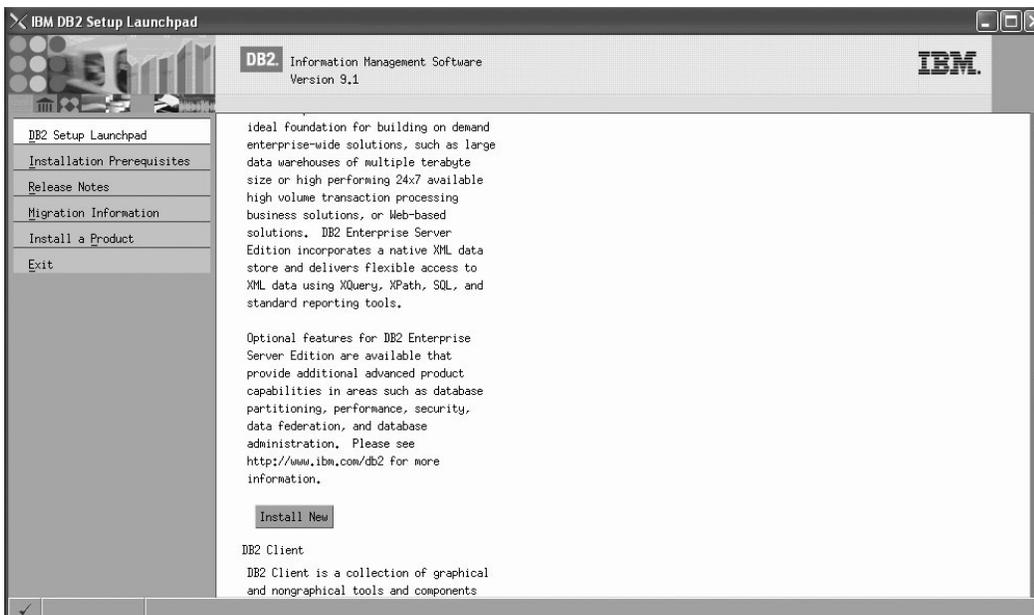


Figure 50. Install a Product page of the DB2 Setup Launchpad

7. On the "Install a Product" page of the "IBM DB2 Setup Launchpad", click the **Install New** button for **DB2 Enterprise Server Edition**. The "DB2 Setup wizard" opens.

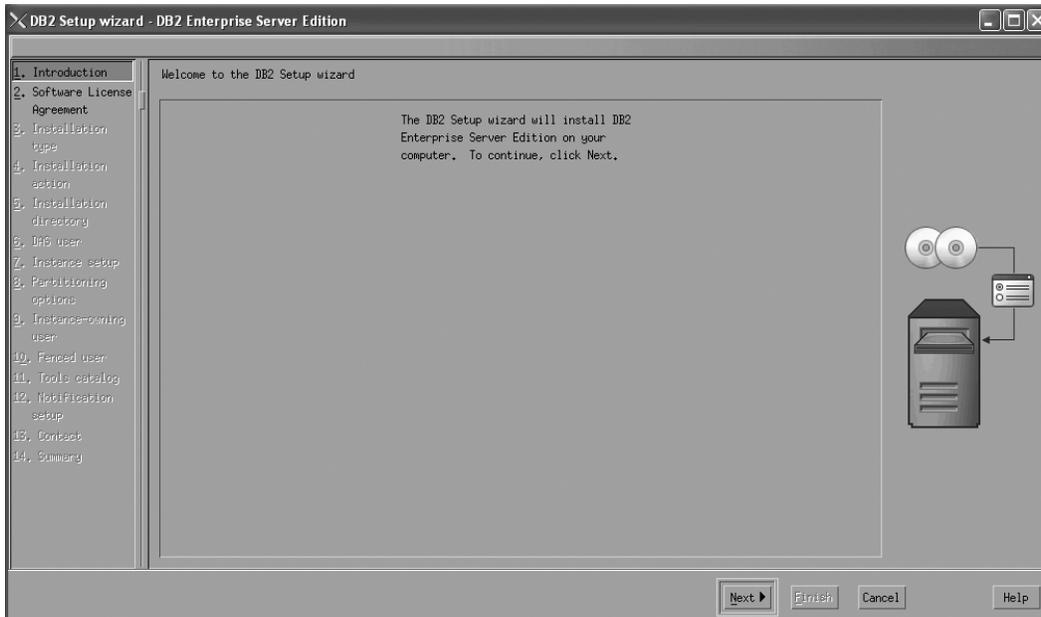


Figure 51. DB2 Setup wizard

8. Click **Next**. The "Software License Agreement" page opens.
9. On the "License Agreement" page:
 - a. After reviewing and agreeing to the license text, select the **Accept** radio button:

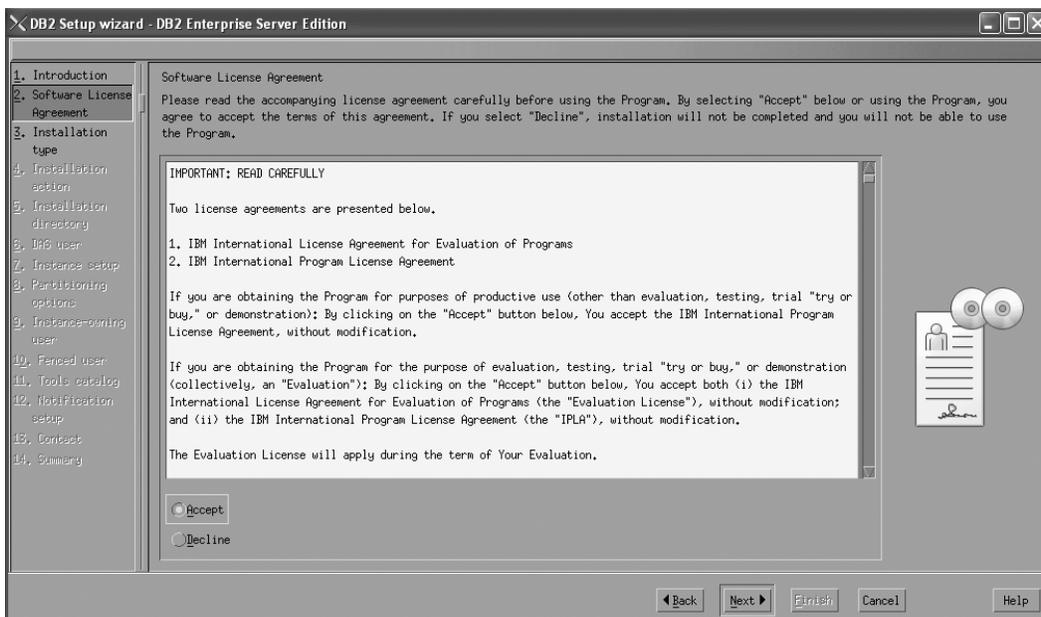


Figure 52. DB2 Setup wizard - Software Licence Agreement page

- b. Click **Next**. The "Select the installation type" page opens.

10. On the "Select the installation type" page:
 - a. Select the **Custom** radio button:

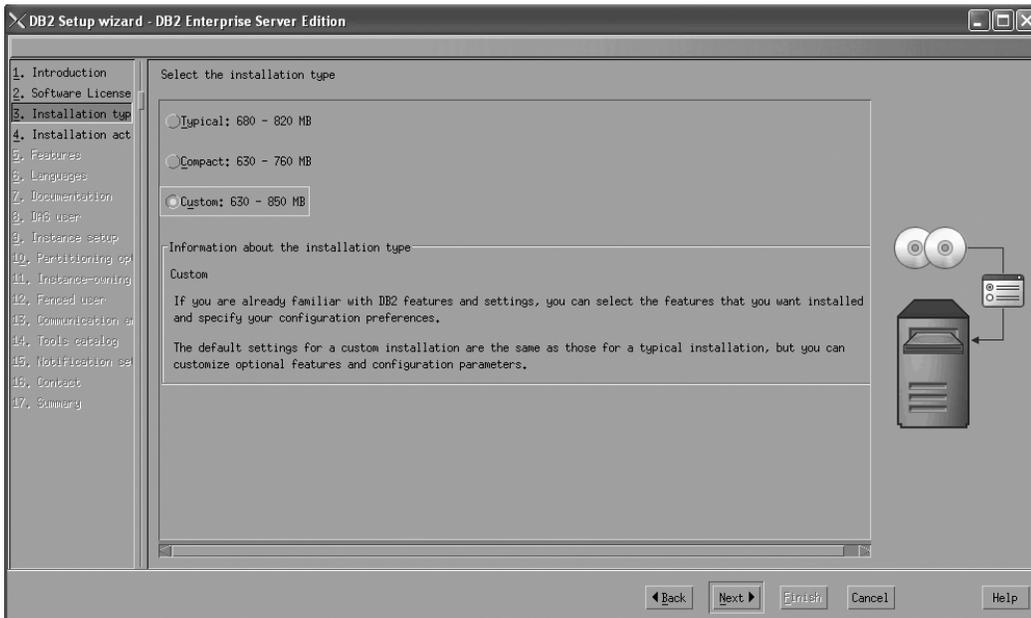


Figure 53. DB2 Setup wizard - Select the installation type page

- b. Click **Next**. The "Select the installation, response file creation, or both" page opens.
11. On the "Select the installation, response file creation, or both" page:
 - a. Select the **Install DB2 Enterprise Server Edition on this computer** radio button.

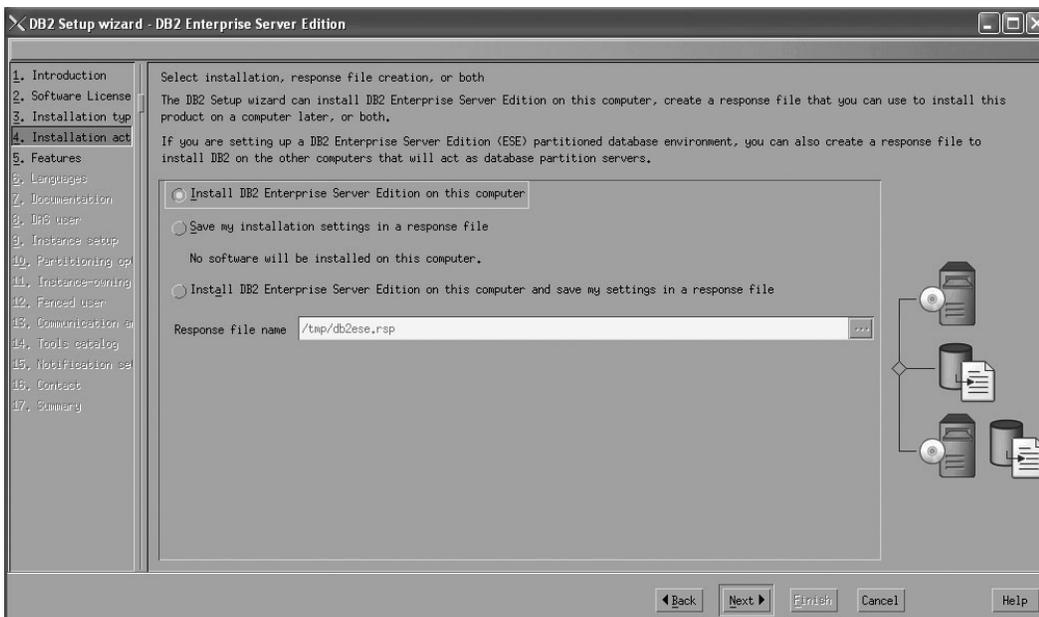


Figure 54. DB2 Setup wizard - Select the installation, response file creation, or both page

b. Click **Next**. The "Select the features to install" page opens.

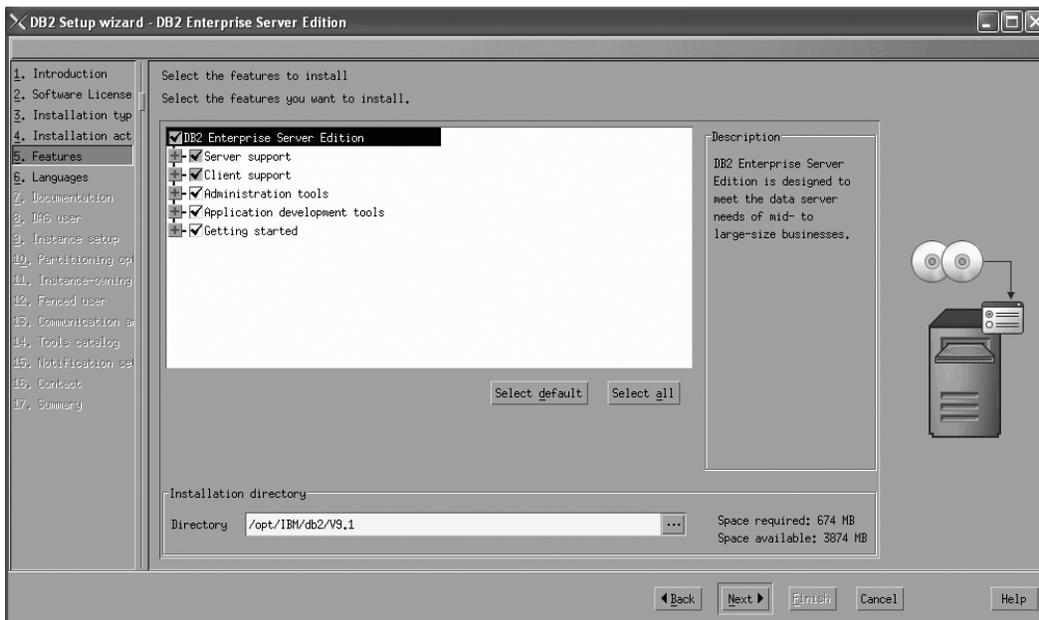


Figure 55. DB2 Setup wizard - Select the features to install page

12. On the "Select the features to install" page:
 - a. Open the + beside **Client**.
 - b. Select the **DB2 LDAP support** feature to remove the check mark.

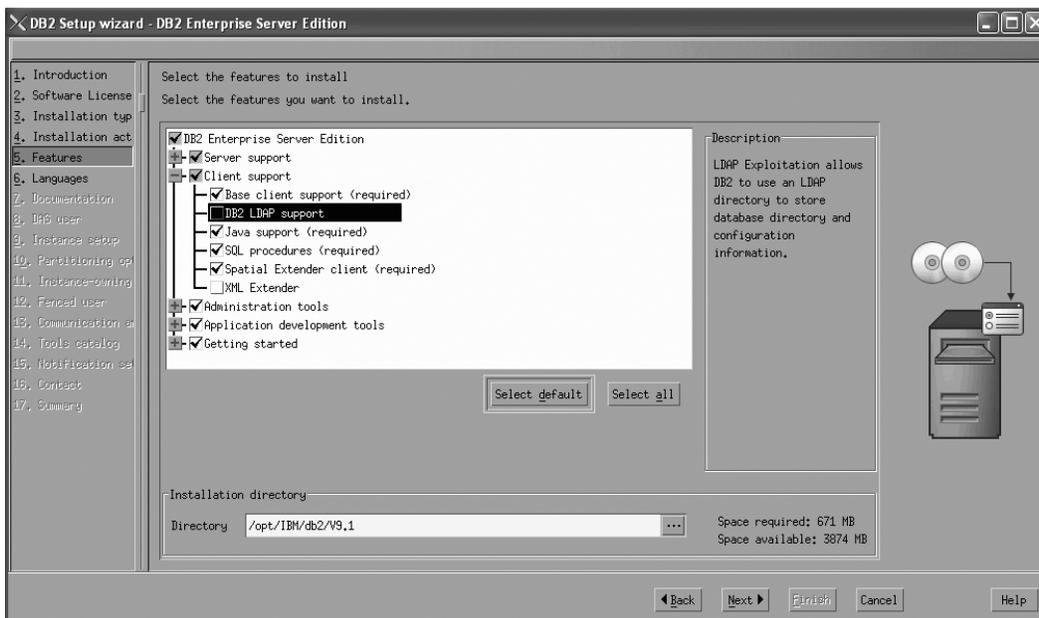


Figure 56. DB2 Setup wizard - Select the features to install page; DB2 LDAP support feature deselected for install

- c. Open the + beside **Administration tools**.
- d. Ensure that the following features under **Administration tools** are deselected for installation:
 - **DB2 Instance Setup wizard**

- DB2 Web Tools

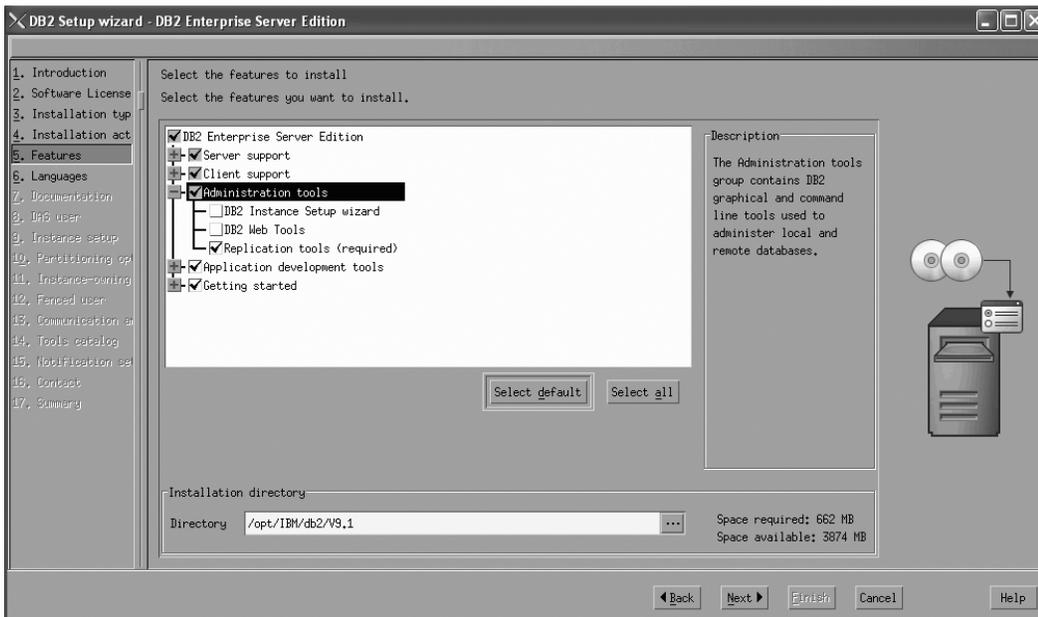


Figure 57. DB2 Setup wizard - Select the features to install page; Administration tools features deselected for install

- e. Open the + beside **Application development tools**.
- f. Ensure that the **ADT sample programs** feature and the **Spatial Extender samples** feature are deselected for installation.

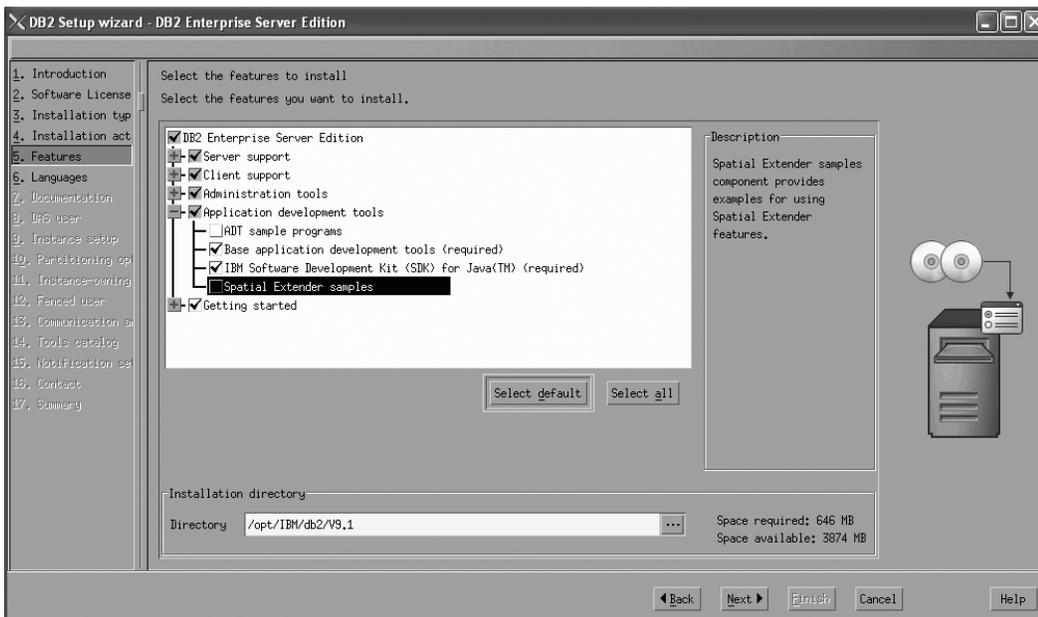


Figure 58. DB2 Setup wizard - Select the features to install page; Application development tools features deselected for installation

- g. Open the + beside **Getting started**.

- h. Ensure that the **First Steps** feature and the **XML Extender samples** feature are deselected for installation.

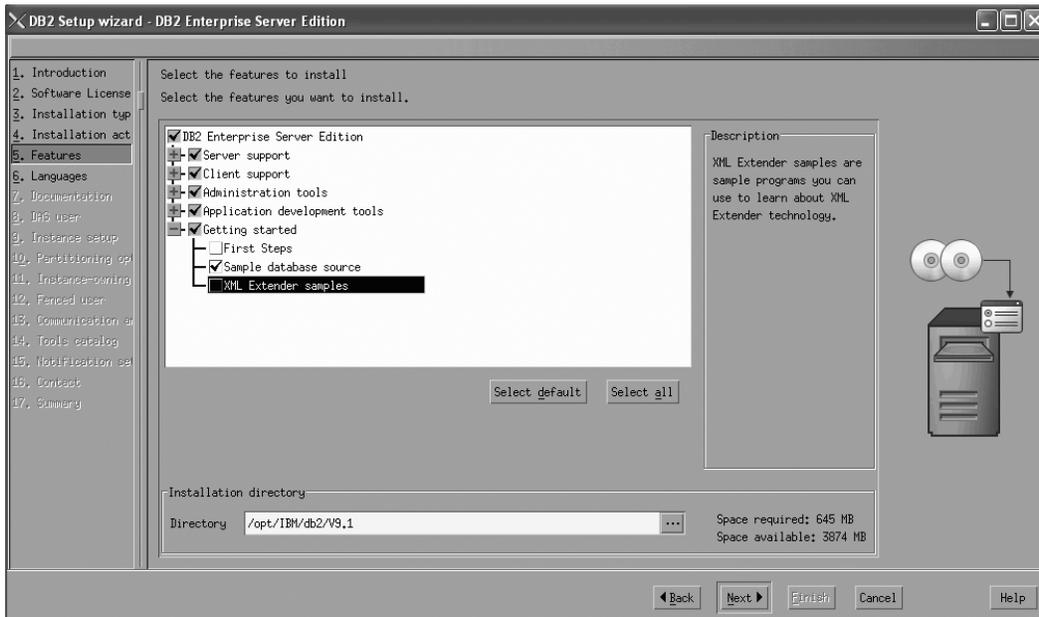


Figure 59. DB2 Setup wizard - Select the features to install page; Getting started features deselected for installation

- i. Click **Next**. The "Select the languages to install" page opens.
13. On the "Select the languages to install" page, English is the only language support that is installed by default.

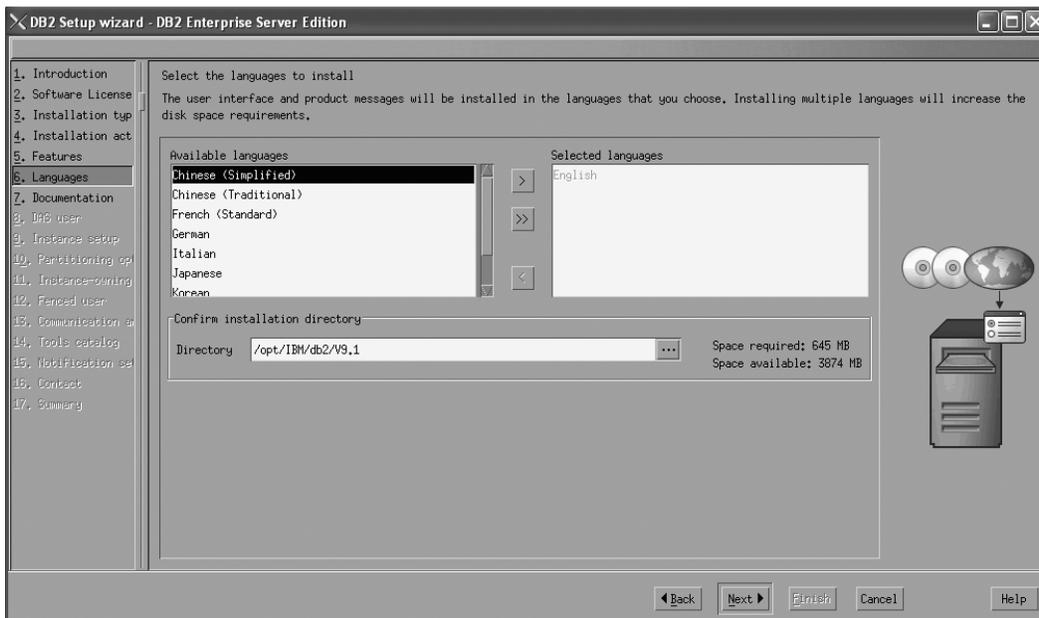


Figure 60. DB2 Setup wizard - Select the languages to install page; English language support selected for installation

14. Click **Next**. The "Specify the location of the DB2 Information Center" page opens.
15. On the "Specify the location of the DB2 Information Center" page:

- a. Ensure that the **On the IBM Web site** radio button is selected.

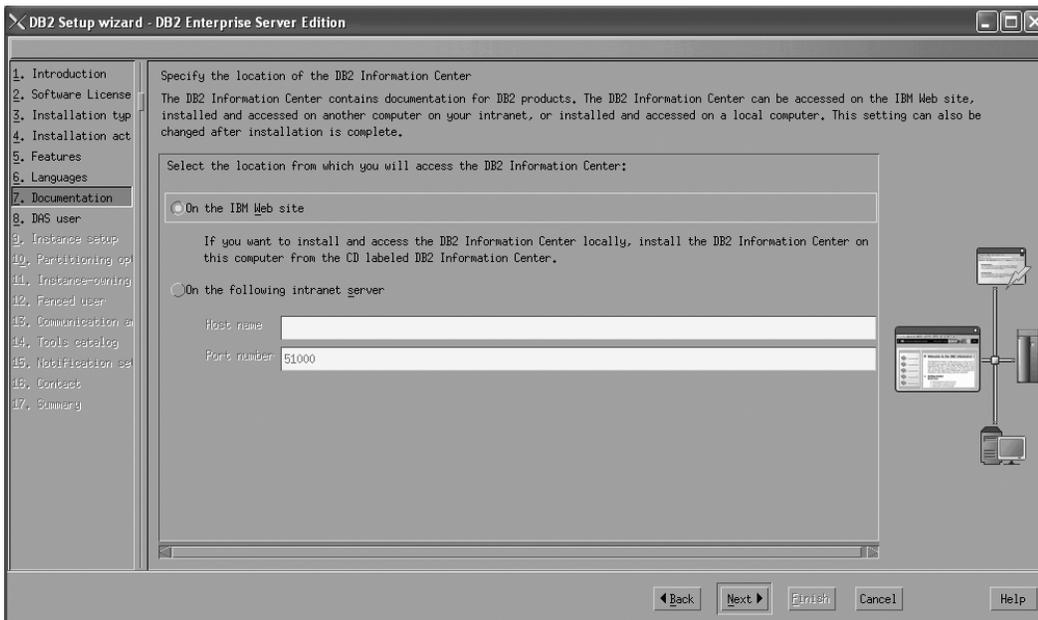


Figure 61. DB2 Setup wizard - Specify the location of the DB2 Information Center; On the IBM Web site option selected

- b. Click **Next**. The "Set user information for the DB2 Administration Server" page opens.
16. On the "Set user information for the DB2 Administration Server" page:
 - a. Select the **Existing user** radio button.
 - b. Use the ... button to select the user previously defined for the DB2 Administration Server.

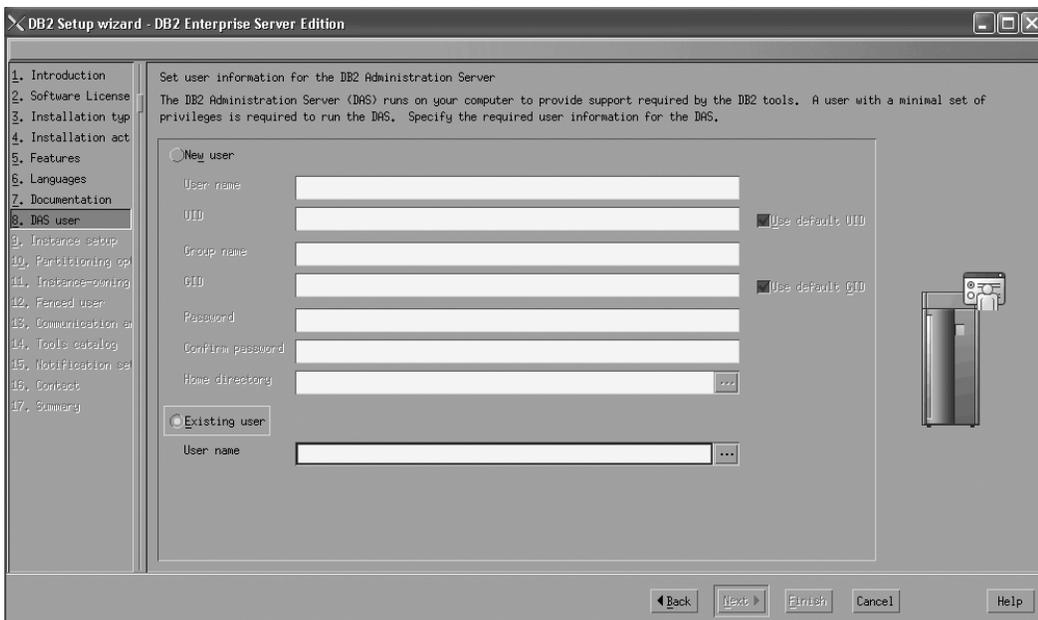


Figure 62. DB2 Setup wizard - Set user information for the DB2 Administration Server page

- c. Click **Next**. The "Set up a DB2 instance" page opens.
17. On the "Set up a DB2 instance" page:
 - a. Ensure that the **Create a DB2 instance** radio button is selected.

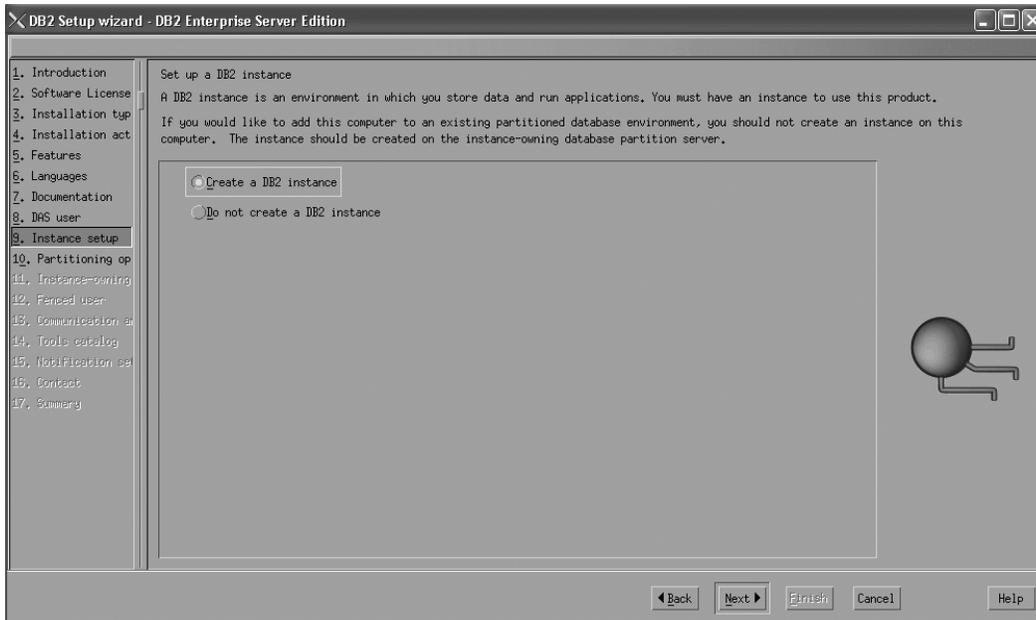


Figure 63. DB2 Setup wizard - Set up a DB2 instance page; Create a DB2 instance option selected

- b. Click **Next**. The "Set up partitioning options for the DB2 instance" page opens.
18. On the "Set up partitioning options for the DB2 instance" page:
 - a. Ensure that the **Single partition instance** radio button is selected.

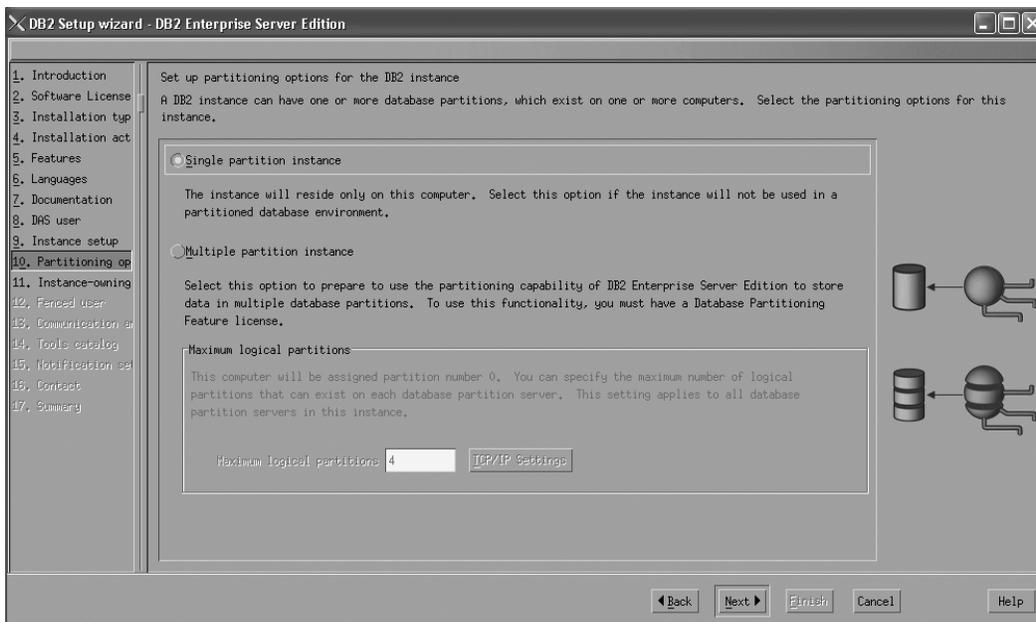


Figure 64. DB2 Setup wizard - Set up partitioning options for the DB2 instance page

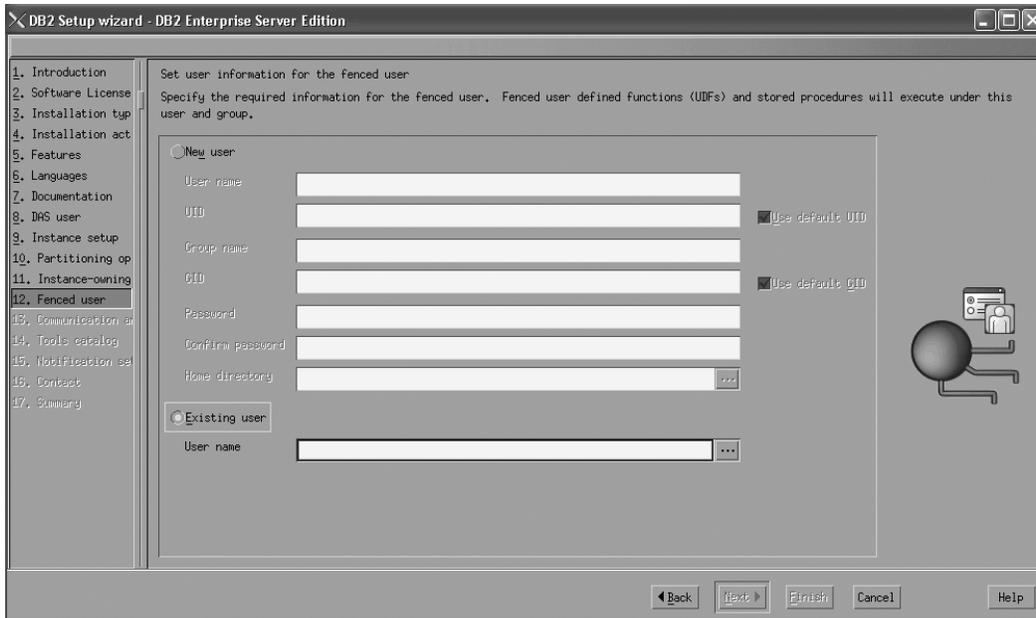


Figure 66. DB2 Setup wizard - Set user information for the fenced user page

- c. Click **Next**. The "Configure instance communication and startup" page opens.
21. On the "Configure instance communication and startup" page:
 - a. Select the **Configure** radio button.
 - b. Ensure that the **Autostart the instance at system startup** check box is deselected.

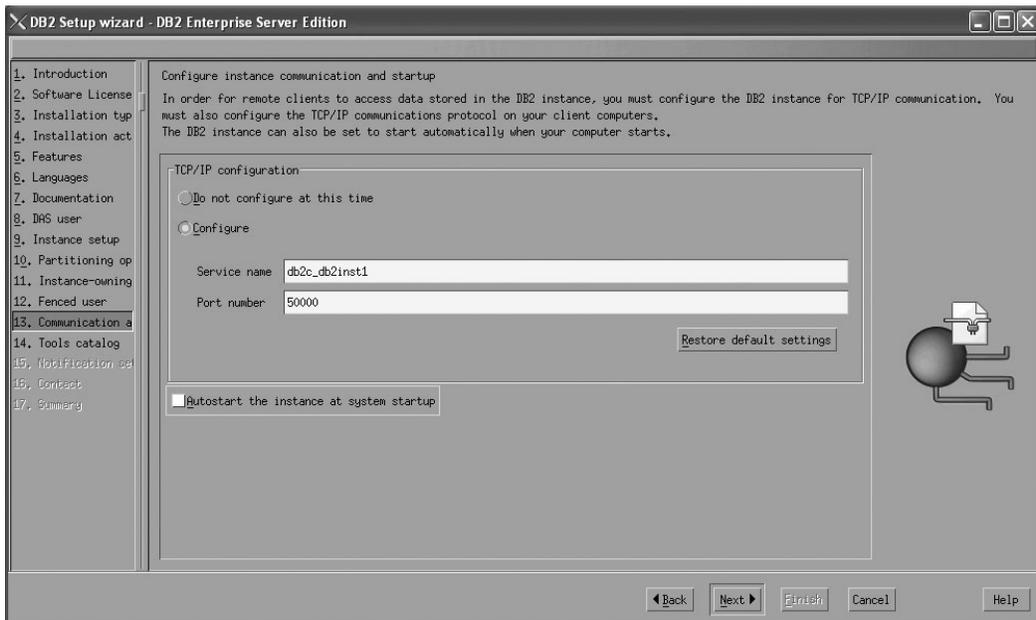


Figure 67. DB2 Setup wizard - Configure instance communication and startup page

- c. Click **Next**. The "Prepare the DB2 tools catalog" page opens.
22. On the "Prepare the DB2 tools catalog" page:

- a. Select the **Do not prepare the DB2 tools catalog** radio button.

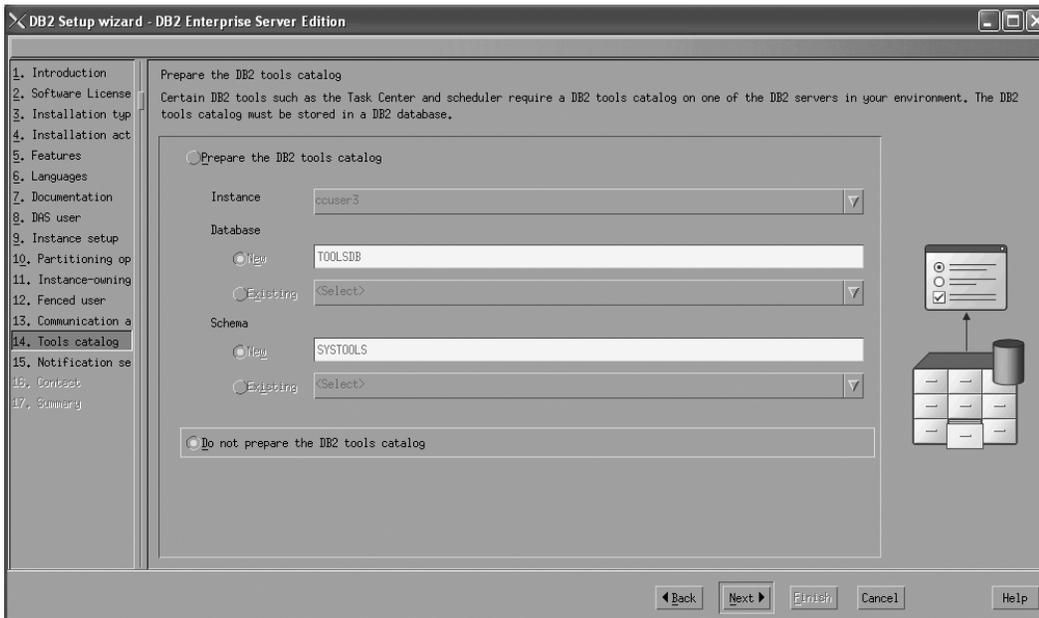


Figure 68. DB2 Setup wizard - Prepare the DB2 tools catalog page

- b. Click **Next**. The "Set up notifications" page opens.
23. On the "Set up notifications" page:
 - a. Select the **Do not set up your DB2 server to send notifications at this time** radio button.

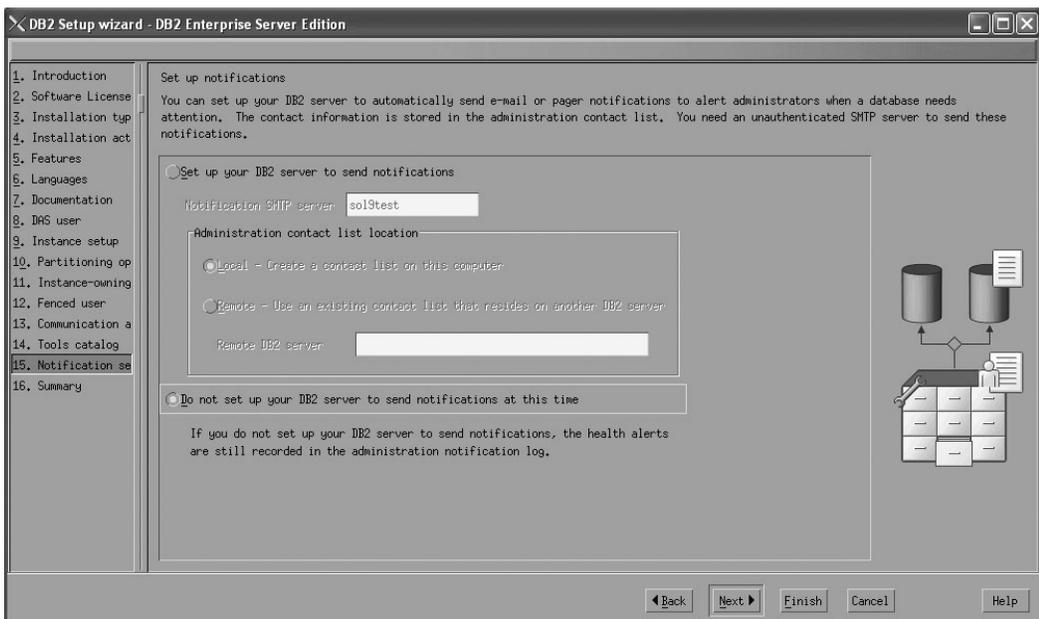


Figure 69. DB2 Setup wizard - Set up notifications page

- b. Click **Next**. The "Start copying files" page opens.

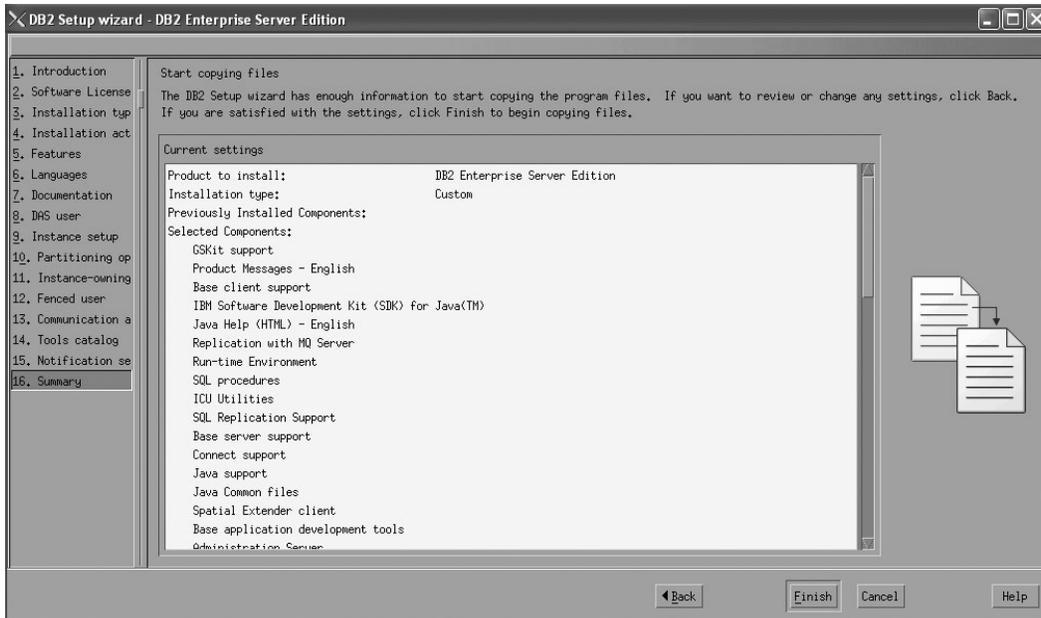


Figure 70. DB2 Setup wizard - Start copying files page

24. On the "Start copying files" page, click **Finish** to begin installing DB2 on your computer.

The "Installing DB2 Enterprise Server Edition" page opens.

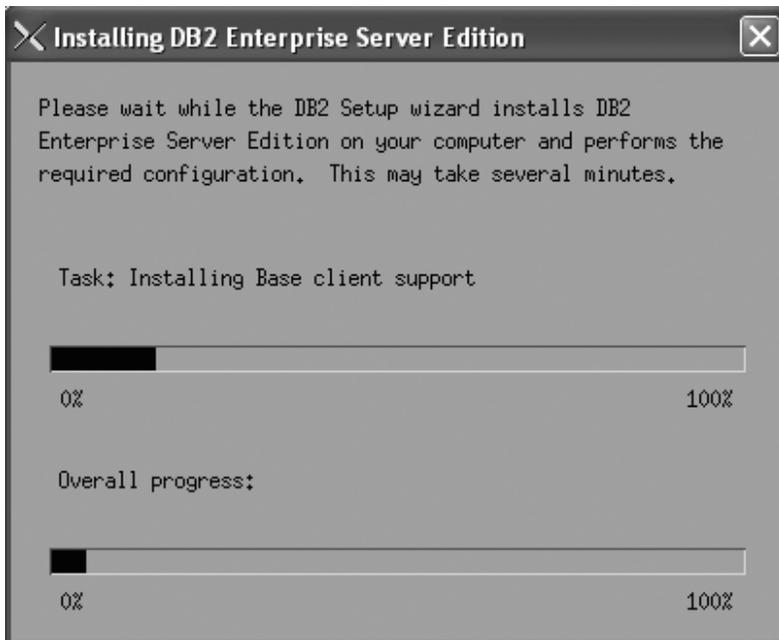


Figure 71. Installing DB2 Enterprise Server Edition page

When the installation completes, the "Setup Complete" page opens.

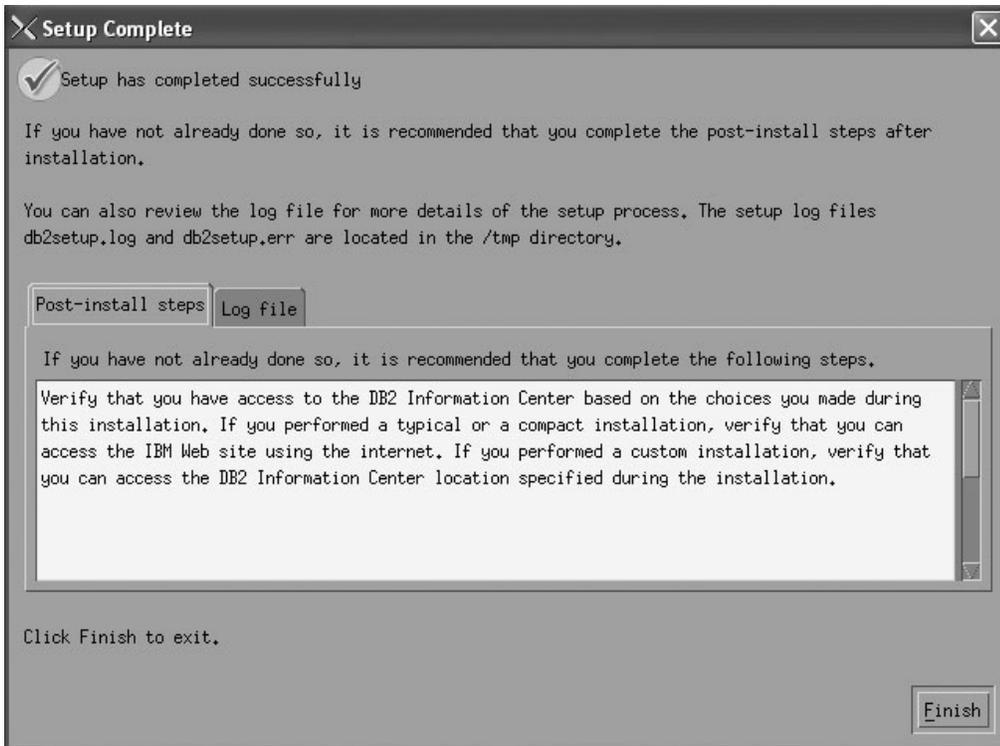


Figure 72. Setup Complete page

Click **Finish** to exit.

25. Activate the license files. See the topic " Registering a DB2 product or feature license key using the db2licm command".

After DB2 Enterprise 9 is installed, see the topic on configuring DB2 to be Common Criteria compliant in the *IBM DB2 Common Criteria Certification: Administration and User Documentation* book.

Installing DB2 Enterprise 9 on Red Hat Enterprise Linux 4 for a single-partition Common Criteria compliant installation

This task provides detailed instructions on installing DB2 Enterprise 9 on Red Hat Enterprise Linux 4 for a Common Criteria compliant installation.

Prerequisites:

- The prerequisites listed in "Installation requirements for DB2 clients and servers (Linux)" must be met.
- The computer on which you install DB2 must be physically protected from untrusted users.
- Red Hat Enterprise Linux 4 must be installed on the computer.
- You must have the file `v9fp1_linuxx64_ese.tar.gz` downloaded to the directory of your choice. This file is available from the DB2 9 download site (<http://ibm.com/software/data/db2/udb/support/downloadv9.html>).
- You must have downloaded the applicable activation files from the Passport Advantage site to the same directory. You require these files to activate Enterprise 9 after installation. The instance owner must have read/write authority on this directory.

- One of the following:
 - DB2_Enterpr_Svr_Auth_User_Activation.zip. Required to activate DB2 Enterprise 9 if you purchase DB2 Enterprise 9 on a per user basis.
 - DB2_Enterprise_Svr_Ed_CPU_Activation.zip. Required to activate DB2 Enterprise 9 if you purchase DB2 Enterprise 9 on a per CPU basis.
 - DB2_Advanced_Access_Cntrl_Activation.zip. Required to activate label-based access control (LBAC).
- The user names to be used for the following:
 - The DB2 instance owner
 - The DB2 Administration Server
 - The fenced user

If you do not have these user names, obtain them from your system administrator. For more information about these users, see “DB2 users and groups (Linux and UNIX)” on page 26. For information about creating these users, see “Creating group and user IDs for a DB2 database installation (Linux and UNIX)” on page 30.

The topic "Installing DB2 servers (Linux and UNIX)" provides an overview of installing on Linux and UNIX-based platforms.

Procedure:

Use the following steps to install DB2 Enterprise 9 on Red Hat Enterprise Linux 4 for a Common Criteria compliant environment.

1. Log on to the system as a user with root authority.
2. Decompress the product file:


```
gzip -d v9fp1_linuxx64_ese.tar.gz
```
3. Untar the product file:


```
tar xvf v9fp1_linuxx64_ese.tar
```
4. Change directory:


```
cd $HOME/ese/disk1
```
5. Issue the `./db2setup` command to open the "IBM DB2 Setup Launchpad" at the "Welcome" page:



Figure 73. Welcome page of the DB2 Setup Launchpad

6. On the "Welcome" page of the "IBM DB2 Setup Launchpad", click **Install a Product** to open the "Install a Product" page.

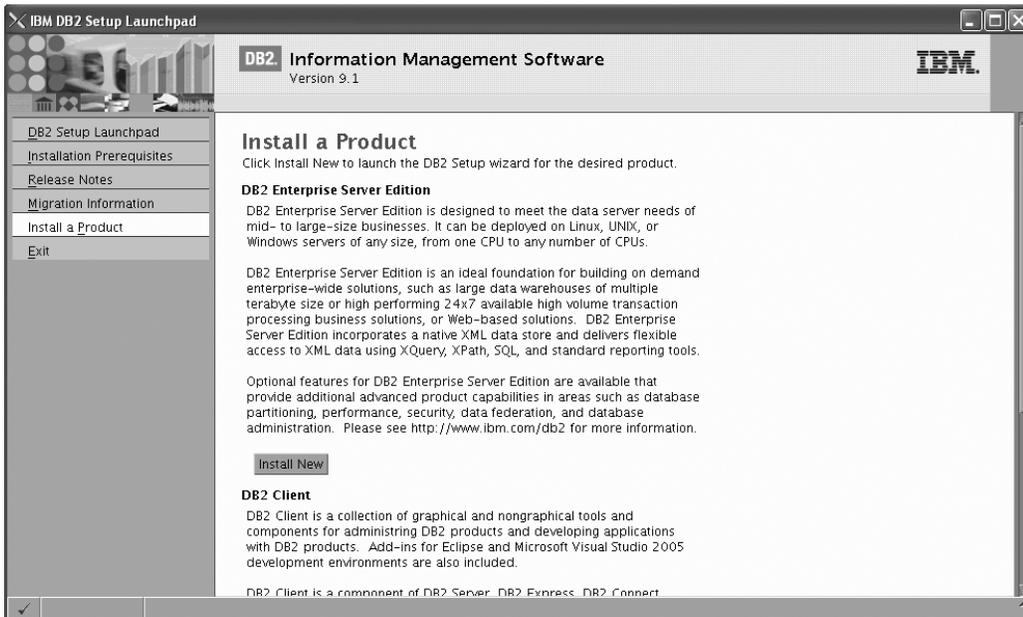


Figure 74. Install a Product page of the DB2 Setup Launchpad

7. On the "Install a Product" page of the "IBM DB2 Setup Launchpad", click the **Install New** button for **DB2 Enterprise Server Edition**. The "DB2 Setup wizard" opens.

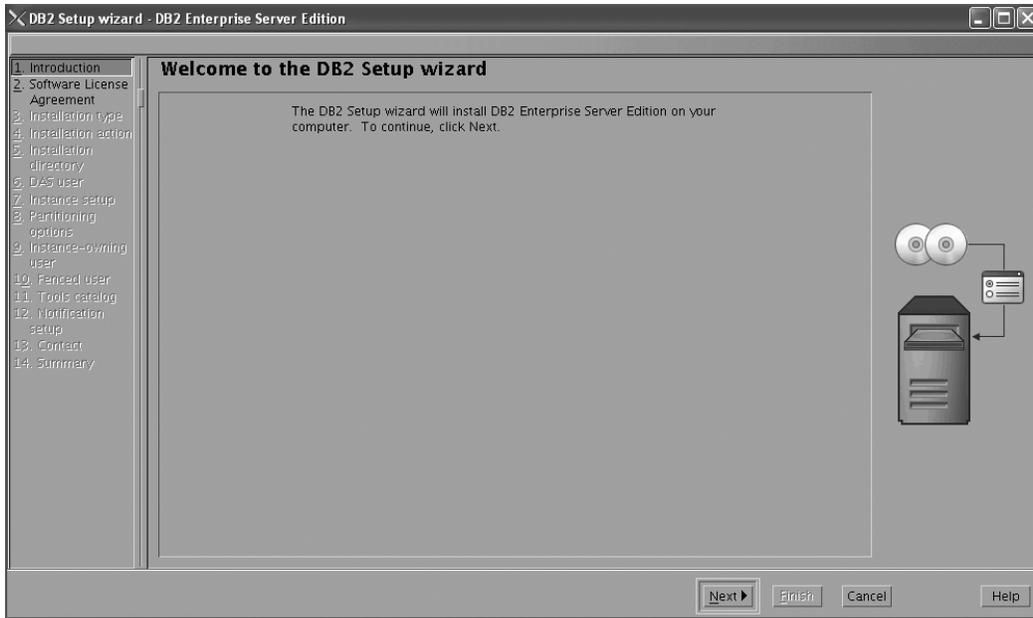


Figure 75. DB2 Setup wizard

8. Click **Next**. The "License Agreement" page opens.
9. On the "License Agreement" page:
 - a. After reviewing and agreeing to the license text, select the **Accept** radio button:



Figure 76. DB2 Setup wizard - Licence Agreement page

- b. Click **Next**. The "Select the installation type" page opens.
10. On the "Select the installation type" page:
 - a. Select the **Custom** radio button:

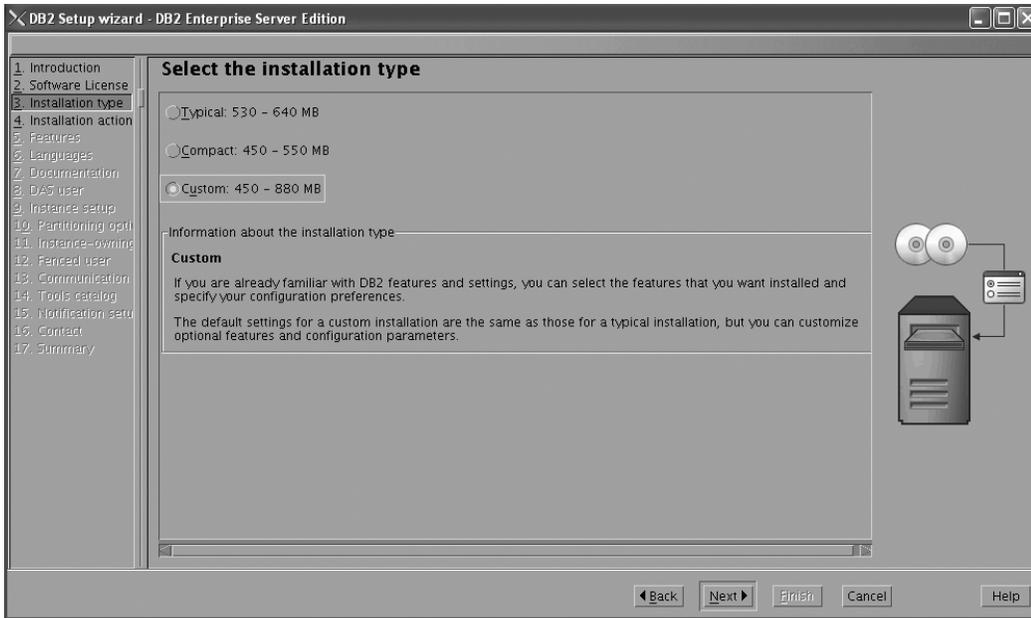


Figure 77. DB2 Setup wizard - Select the installation type page

- b. Click **Next**. The "Select the installation, response file creation, or both" page opens.
11. On the "Select the installation, response file creation, or both" page:
 - a. Select the **Install DB2 Enterprise Server Edition on this computer** radio button.

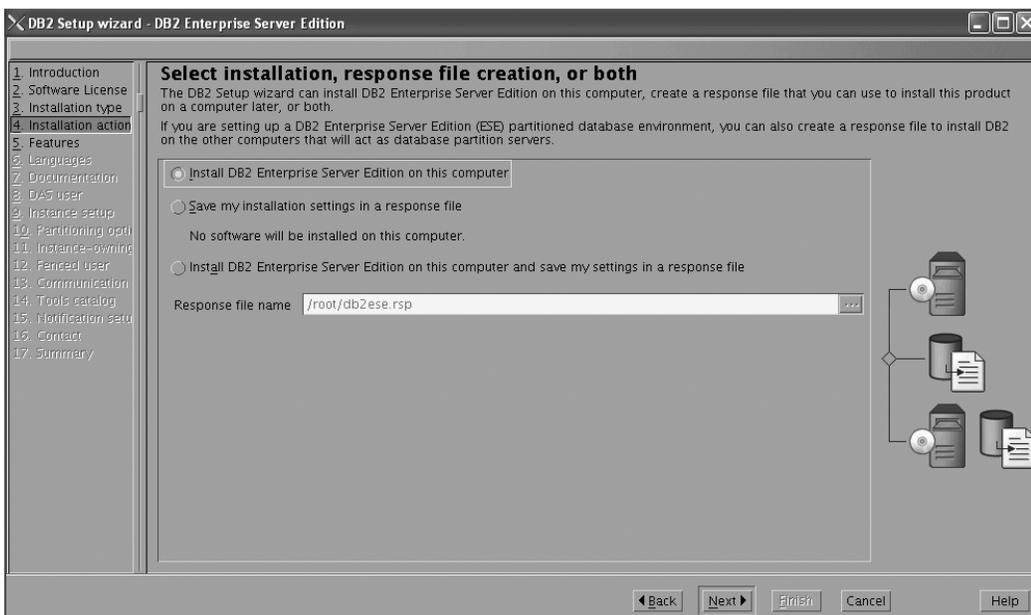


Figure 78. DB2 Setup wizard - Select the installation, response file creation, or both page

- b. Click **Next**. The "Select the features to install" page opens.

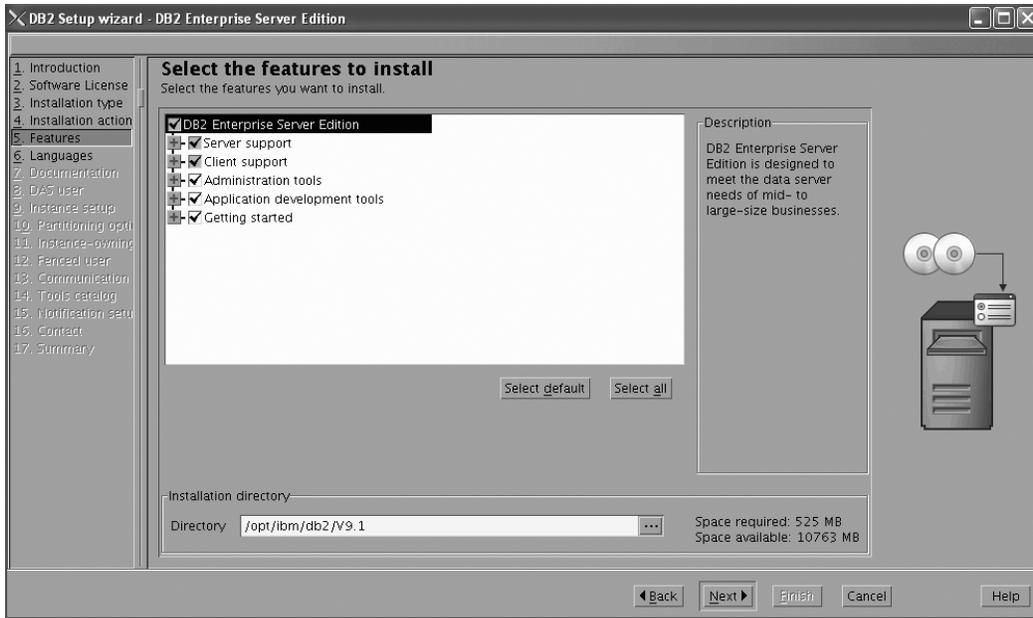


Figure 79. DB2 Setup wizard - Select the features to install page

12. On the "Select the features to install" page:
 - a. Open the + beside **Client support**.
 - b. Select the **DB2 LDAP support** feature to remove the check mark.

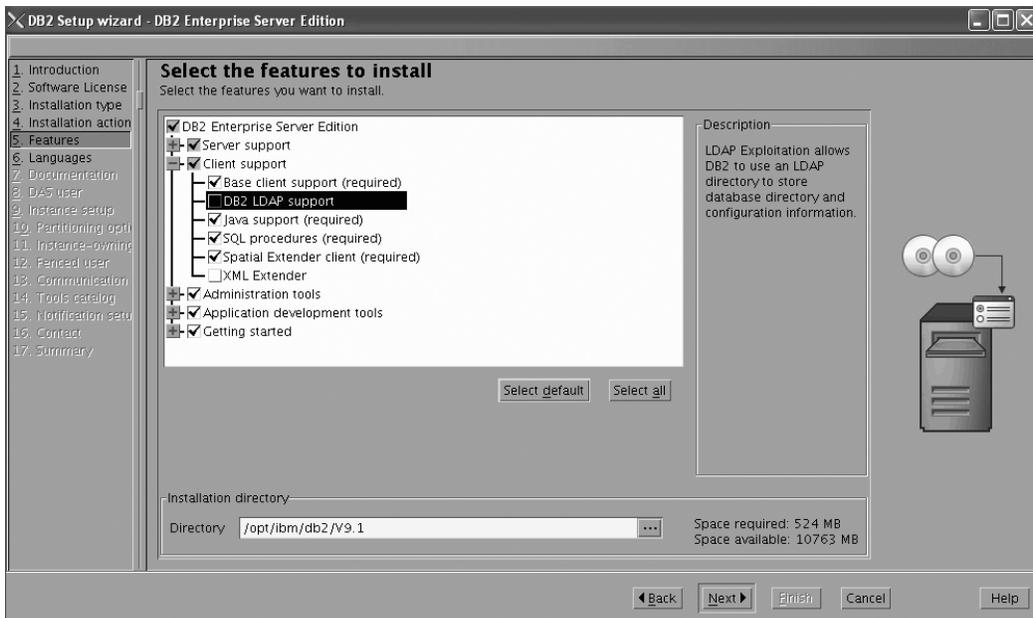


Figure 80. DB2 Setup wizard - Select the features to install page; DB2 LDAP support feature deselected for install

- c. Open the + beside **Administration tools**.
- d. Ensure that the following features under **Administration tools** are deselected for installation:
 - **Configuration Assistant**

Note: The **Configuration Assistant** feature must be deselected after the **Control Center** feature.

- **Control Center**
- **DB2 Instance Setup Wizard**
- **DB2 Web Tools**

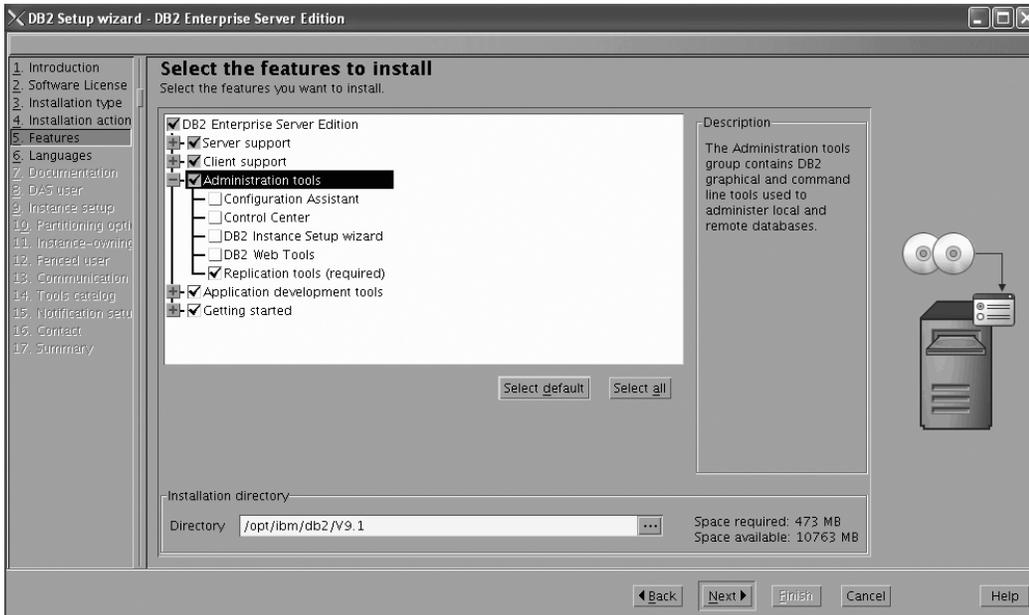


Figure 81. DB2 Setup wizard - Select the features to install page; Administration tools features deselected for install

- Open the + beside **Application development tools**.
- Ensure that the **ADT sample programs** feature and the **Spatial Extender samples** feature are deselected for installation.

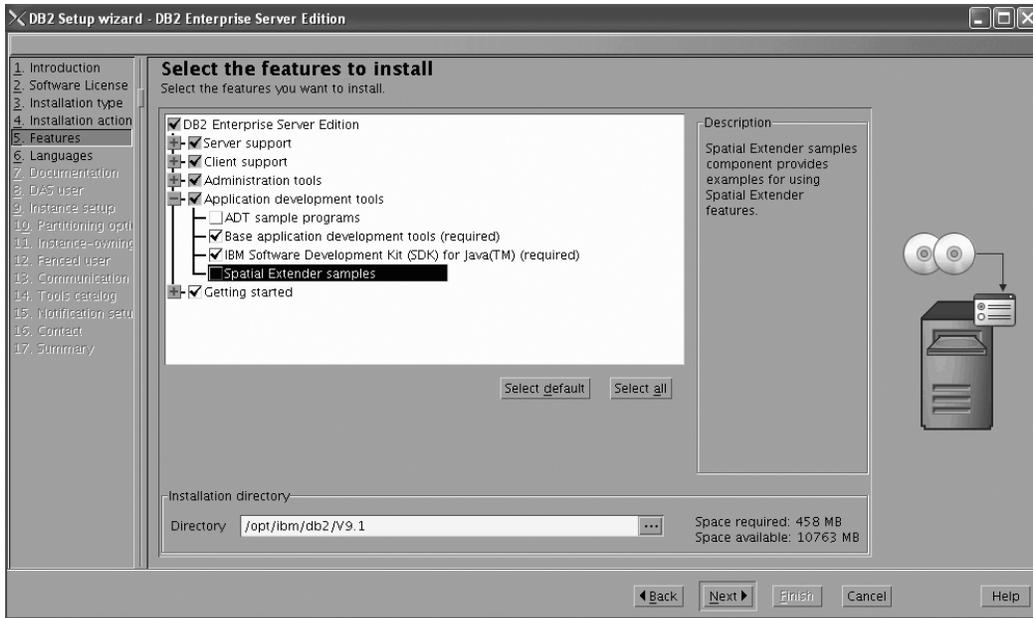


Figure 82. DB2 Setup wizard - Select the features to install page; Application development tools features deselected for installation

- g. Open the + beside **Getting started**.
- h. Ensure that the **First Steps** feature and the **XML Extender samples** feature are deselected for installation.

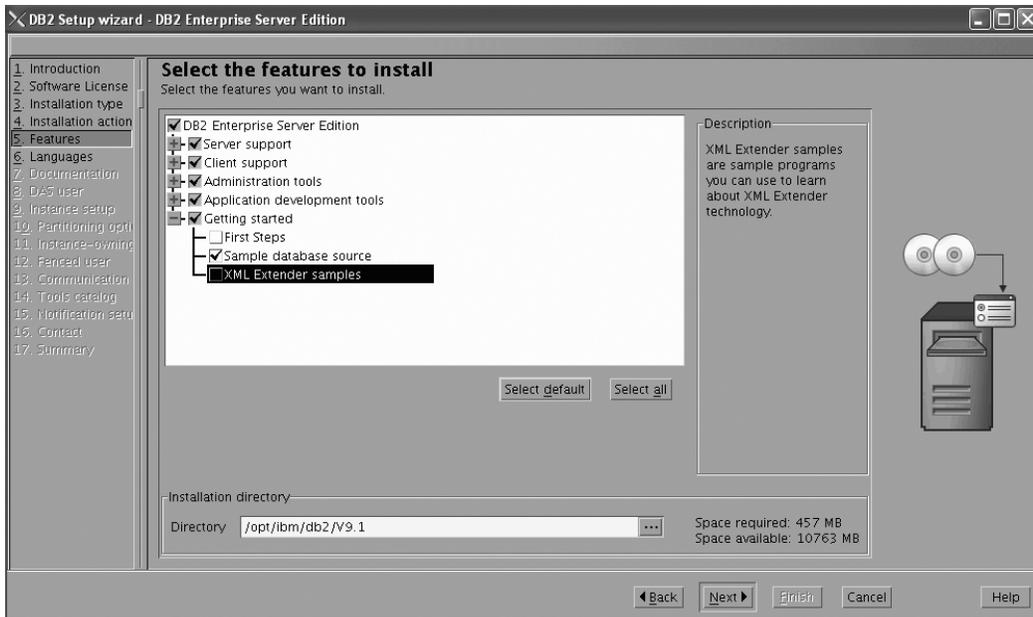


Figure 83. DB2 Setup wizard - Select the features to install page; Getting started features deselected for installation

- i. Click **Next**. The "Select the languages to install" page opens.
13. On the "Select the languages to install" page, English is the only language support that is installed by default.

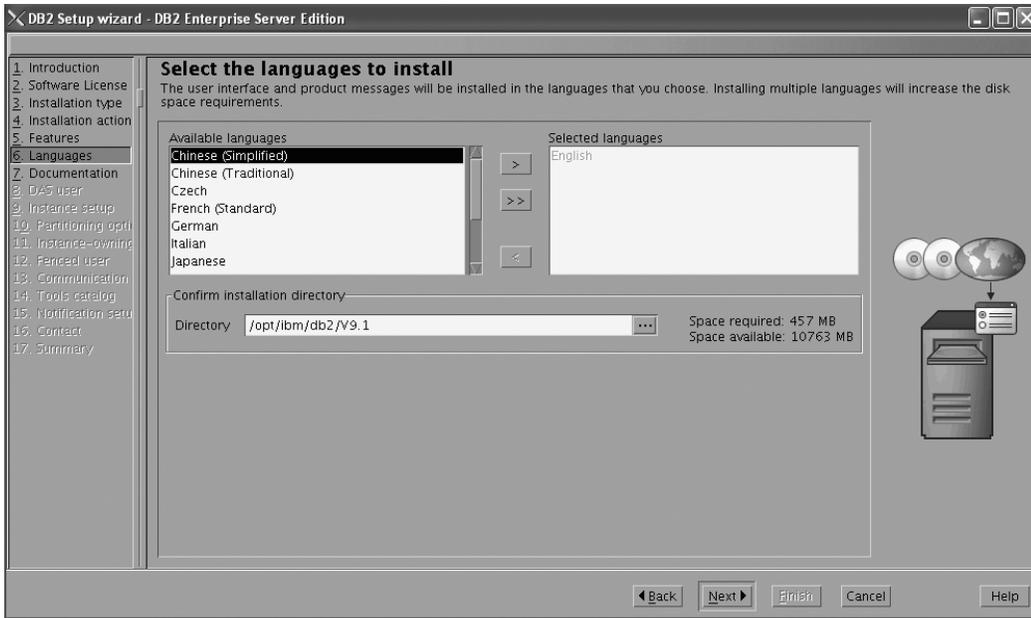


Figure 84. DB2 Setup wizard - Select the languages to install page; English language support selected for installation

14. Click **Next**. The "Specify the location of the DB2 Information Center" page opens.
15. On the "Specify the location of the DB2 Information Center" page:
 - a. Ensure that the **On the IBM Web site** radio button is selected.

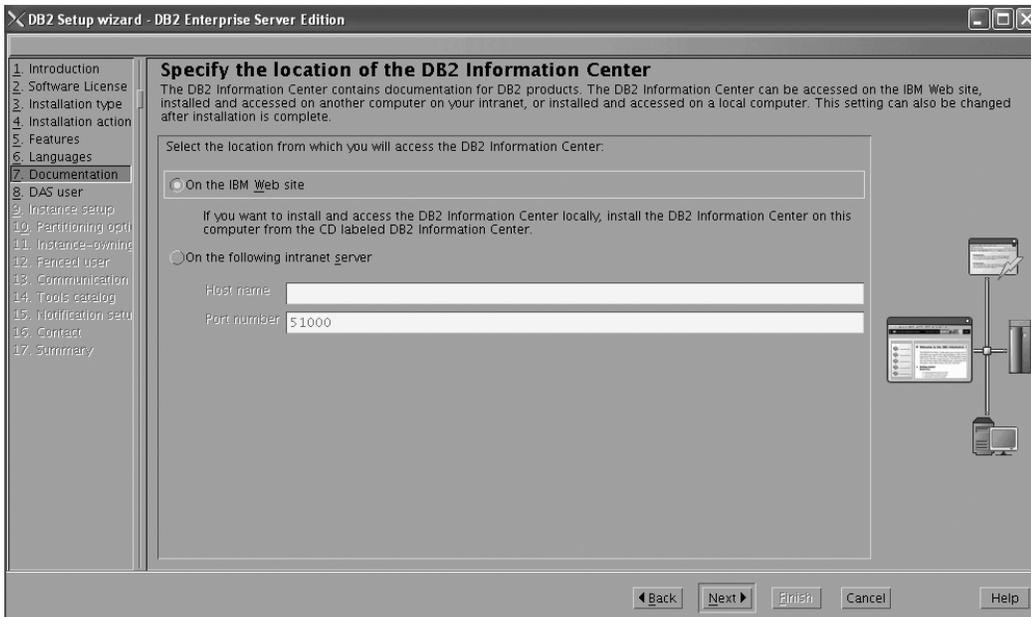


Figure 85. DB2 Setup wizard - Specify the location of the DB2 Information Center; On the IBM Web site option selected

- b. Click **Next**. The "Set user information for the DB2 Administration Server" page opens.
16. On the "Set user information for the DB2 Administration Server" page:
 - a. Select the **Existing user** radio button.

- b. Use the ... button to select the user previously defined for the DB2 Administration Server.

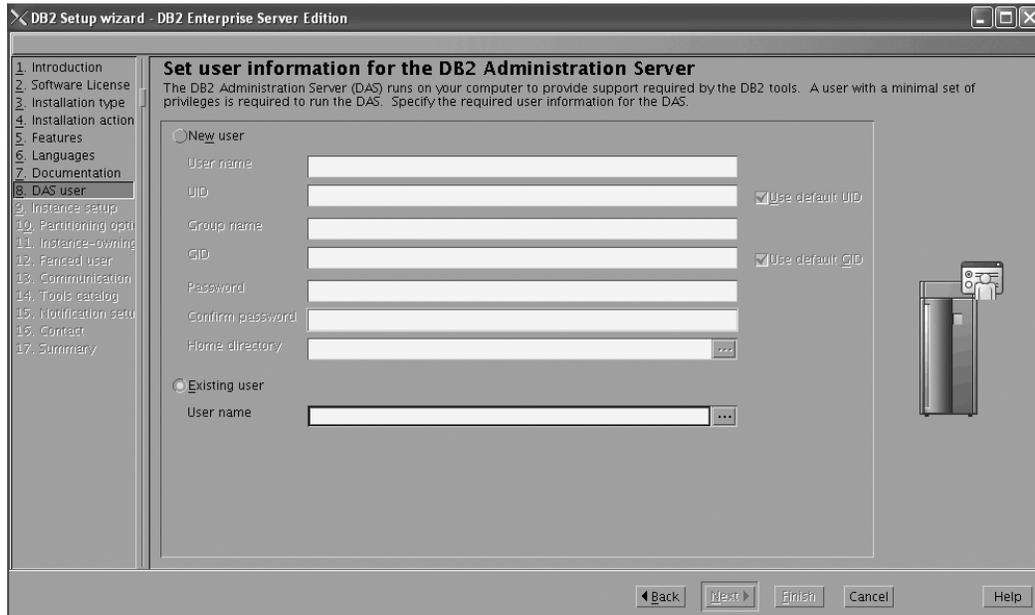


Figure 86. DB2 Setup wizard - Set user information for the DB2 Administration Server page

- c. Click **Next**. The "Set up a DB2 instance" page opens.
17. On the "Set up a DB2 instance" page:
 - a. Ensure that the **Create a DB2 instance** radio button is selected.

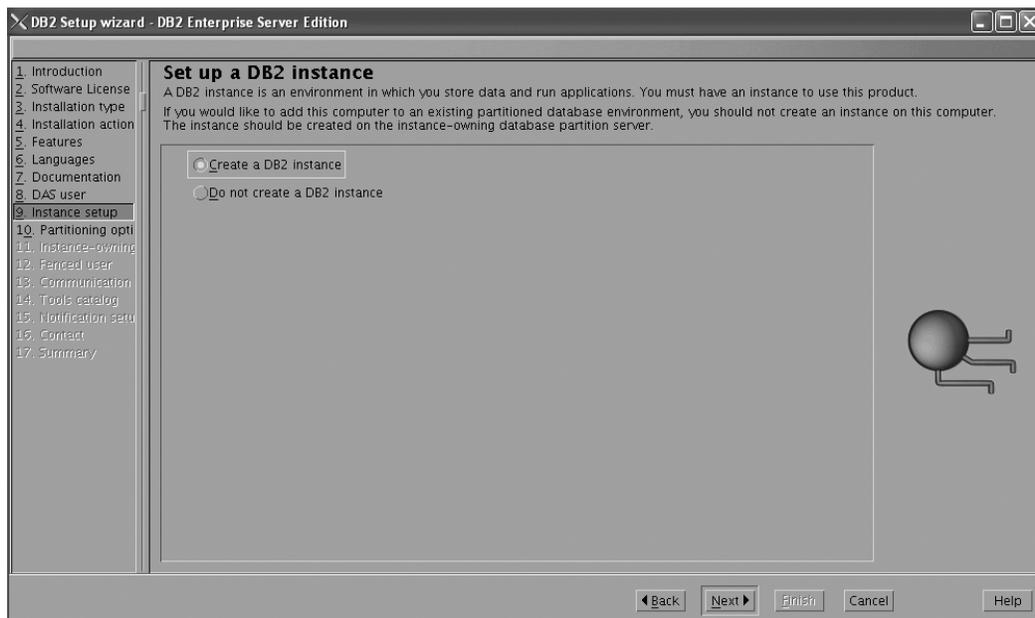


Figure 87. DB2 Setup wizard - Set up a DB2 instance page; Create a DB2 instance option selected

- b. Click **Next**. The "Set up partitioning options for the DB2 instance" page opens.
18. On the "Set up partitioning options for the DB2 instance" page:

- a. Ensure that the **Single partition instance** radio button is selected.

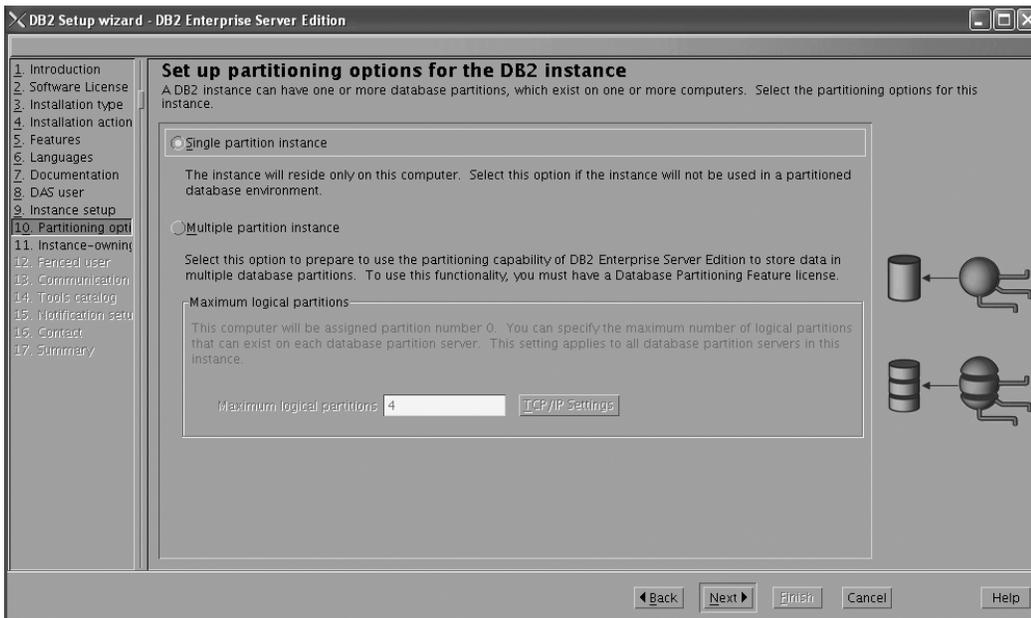


Figure 88. DB2 Setup wizard - Set up partitioning options for the DB2 instance page

- b. Click **Next**. The "Set user information for the DB2 instance owner" page opens.
19. On the "Set user information for the DB2 instance owner" page:
 - a. Select the **Existing user** radio button.
 - b. Use the ... button to select the user previously defined for the DB2 instance owner.

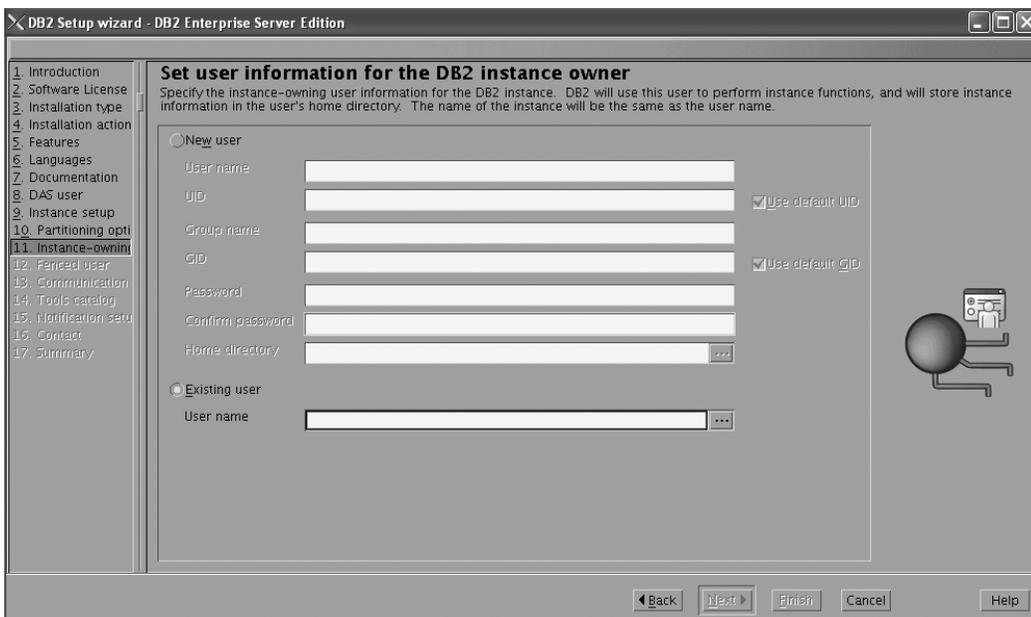


Figure 89. DB2 Setup wizard - Set user information for the DB2 instance owner page

- c. Click **Next**. The "Set user information for the fenced user" page opens.

20. On the "Set user information for the fenced user" page:
 - a. Select the **Existing user** radio button.
 - b. Use the ... button to select the user previously defined for the fenced user.

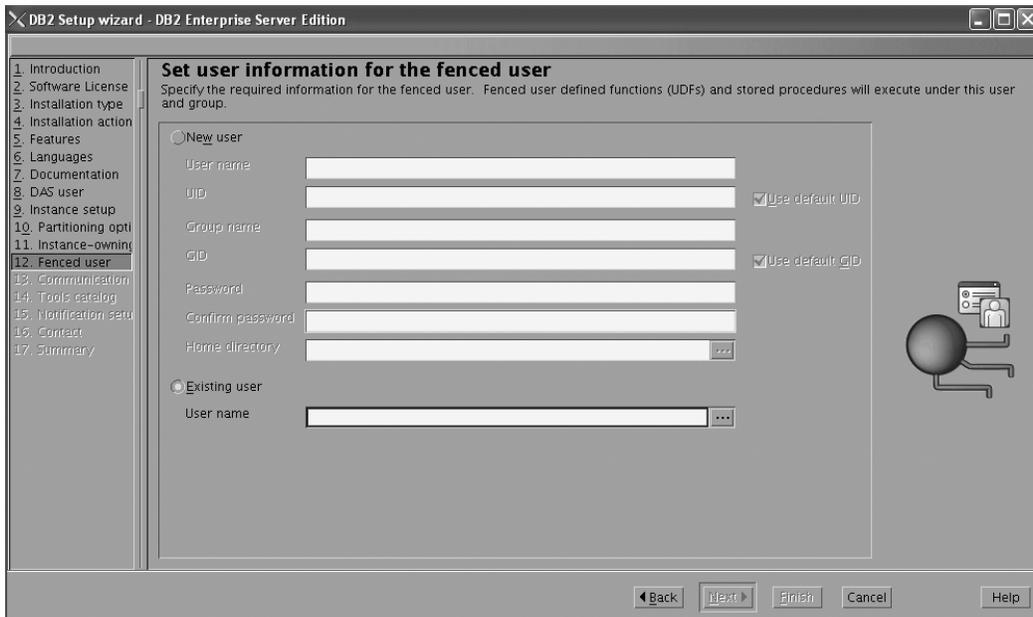


Figure 90. DB2 Setup wizard - Set user information for the fenced user page

- c. Click **Next**. The "Configure instance communication and startup" page opens.
21. On the "Configure instance communication and startup" page:
 - a. Select the **Configure** radio button.
 - b. Ensure that the **Autostart the instance at system startup** check box is deselected.

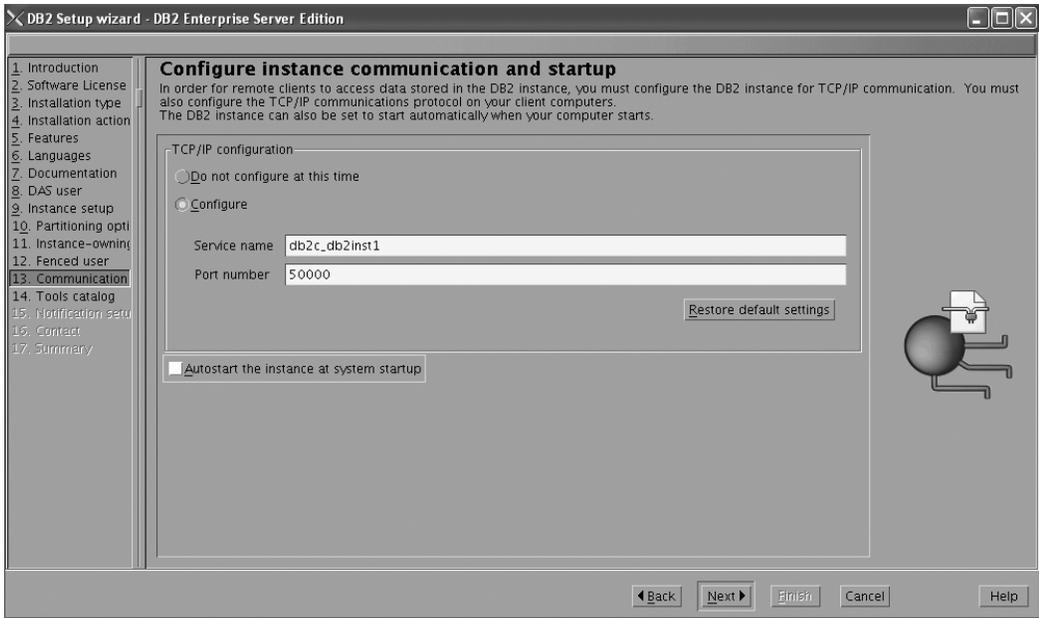


Figure 91. DB2 Setup wizard - Configure instance communication and startup page

- c. Click **Next**. The "Prepare the DB2 tools catalog" page opens.
- 22. On the "Prepare the DB2 tools catalog" page:
 - a. Select the **Do not prepare the DB2 tools catalog** radio button.

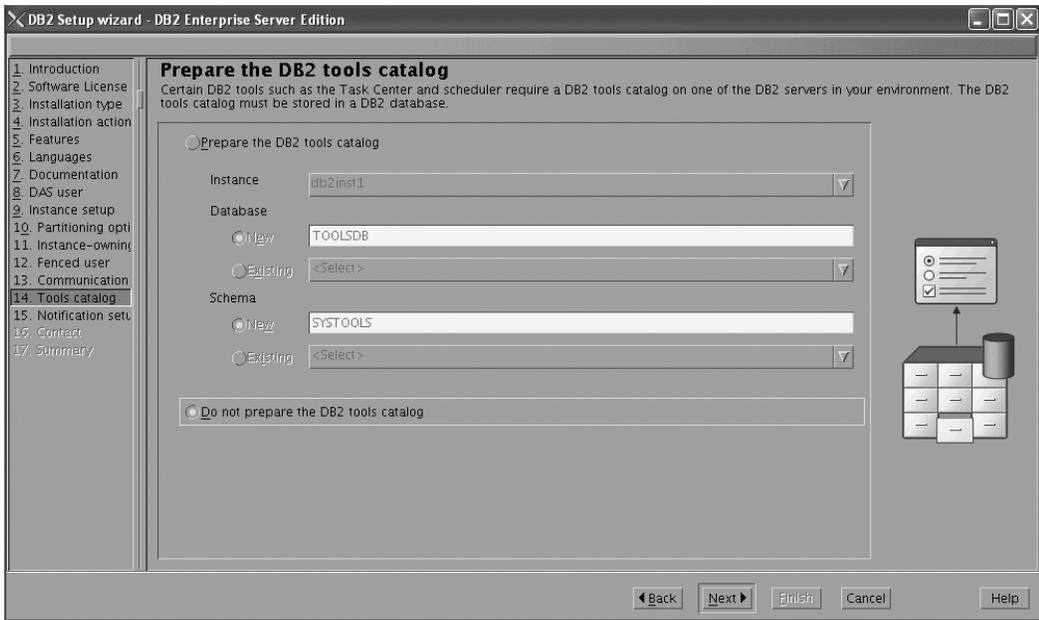


Figure 92. DB2 Setup wizard - Prepare the DB2 tools catalog page

- b. Click **Next**. The "Set up notifications" page opens.
- 23. On the "Set up notifications" page:
 - a. Select the **Do not set up your DB2 server to send notifications at this time** radio button.

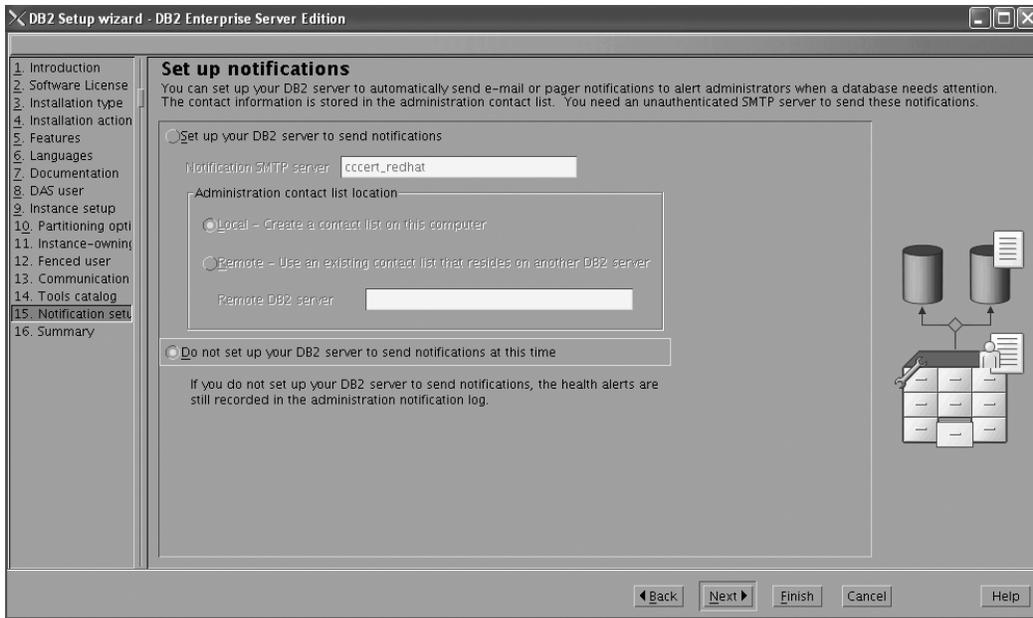


Figure 93. DB2 Setup wizard - Set up notifications page

b. Click **Next**. The "Start copying files" page opens.



Figure 94. DB2 Setup wizard - Start copying files page

24. On the "Start copying files" page, click **Finish** to begin installing DB2 on your computer.
The "Installing DB2 Enterprise Server Edition" page opens.

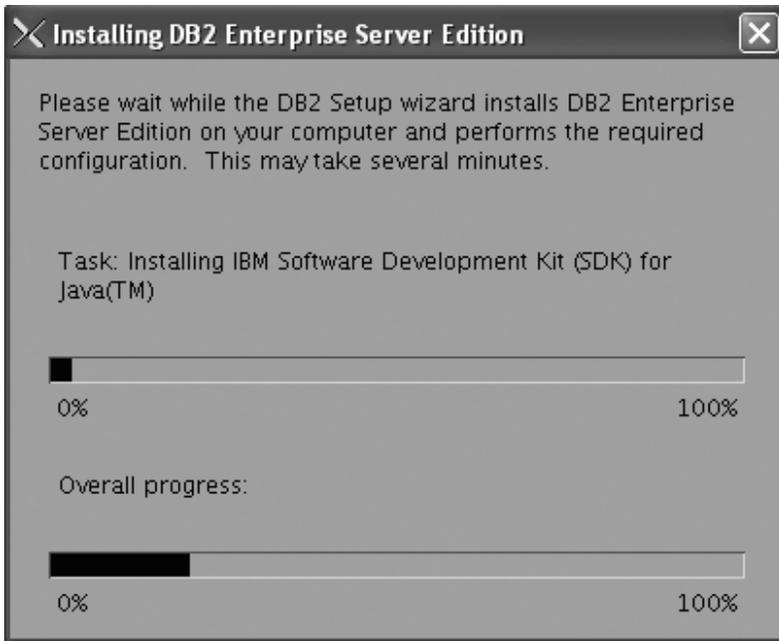


Figure 95. Installing DB2 Enterprise Server Edition page

When the installation completes, the "Setup Complete" page opens.

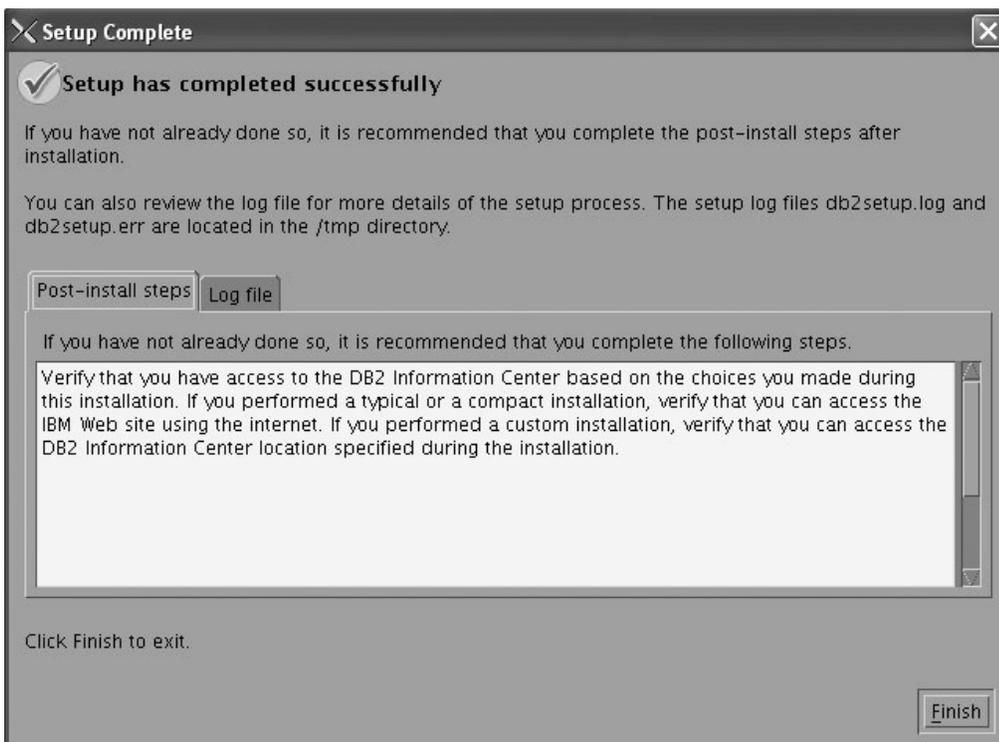


Figure 96. Setup Complete page

Click **Finish** to exit.

25. Activate the license files. See the topic " Registering a DB2 product or feature license key using the db2licm command".

After DB2 Enterprise 9 is installed, see the topic on configuring DB2 to be Common Criteria compliant in the *IBM DB2 Common Criteria Certification: Administration and User Documentation* book.

Installing DB2 Enterprise 9 on Windows Server 2003 for a single-partition Common Criteria compliant installation

This task provides detailed instructions on installing DB2 Enterprise 9 on Windows Server 2003 for a Common Criteria compliant installation.

Prerequisites:

- The prerequisites listed in "Installation requirements for DB2 clients and servers (Windows)" must be met.
- Windows Server 2003 must be installed on the computer.
- Windows Server 2003 must be configured to disable remote access services (such as terminal server and file system shares) before DB2 is installed. For information on performing this task, refer to the operating system documentation.
- The computer on which you install DB2 must be physically protected from untrusted users.
- You must have the file `v9fp1_winx64_ese.exe` downloaded to the directory of your choice. This file is available from the DB2 9 download site (<http://ibm.com/software/data/db2/udb/support/downloadv9.html>). This file is self-extracting.
- You must have downloaded the applicable activation files from the Passport Advantage site to the same directory. You require these files to activate Enterprise 9 after installation:
 - One of the following:
 - `DB2_Enterp_Svr_Auth_User_Activation.zip`. Required to activate DB2 Enterprise 9 if you purchase DB2 Enterprise 9 on a per user basis.
 - `DB2_Enterprise_Svr_Ed_CPU_Activation.zip`. Required to activate DB2 Enterprise 9 if you purchase DB2 Enterprise 9 on a per CPU basis.
 - `DB2_Advanced_Access_Cntrl_Activation.zip`. Required to activate label-based access control (LBAC).
- The domain name.
- The user names to be used for the following:
 - The DB2 instance owner
 - The DB2 Administration Server

If you do not have these user names, obtain them from your system administrator. For more information about these users, see "Required user accounts for installation of DB2 server products (Windows)" on page 12.

The topic "Installing DB2 servers (Windows)" provides an overview of installing on Windows.

Procedure:

To install DB2 Enterprise Server Edition on Windows Server 2003 for a Common Criteria compliant installation.

1. Double click on the `v9fp1_winx64_ese.exe` file. Windows will prompt you with a default temporary directory in which the files will be unzipped.

- Optional: To select a directory other than the default directory, use the **Browse** button.
- Click **Unzip** to unzip the files.
- Change directories to the directory where you extracted the files.
- Double-click the setup.exe file to open the "IBM DB2 Setup Launchpad" at the "Welcome" page:

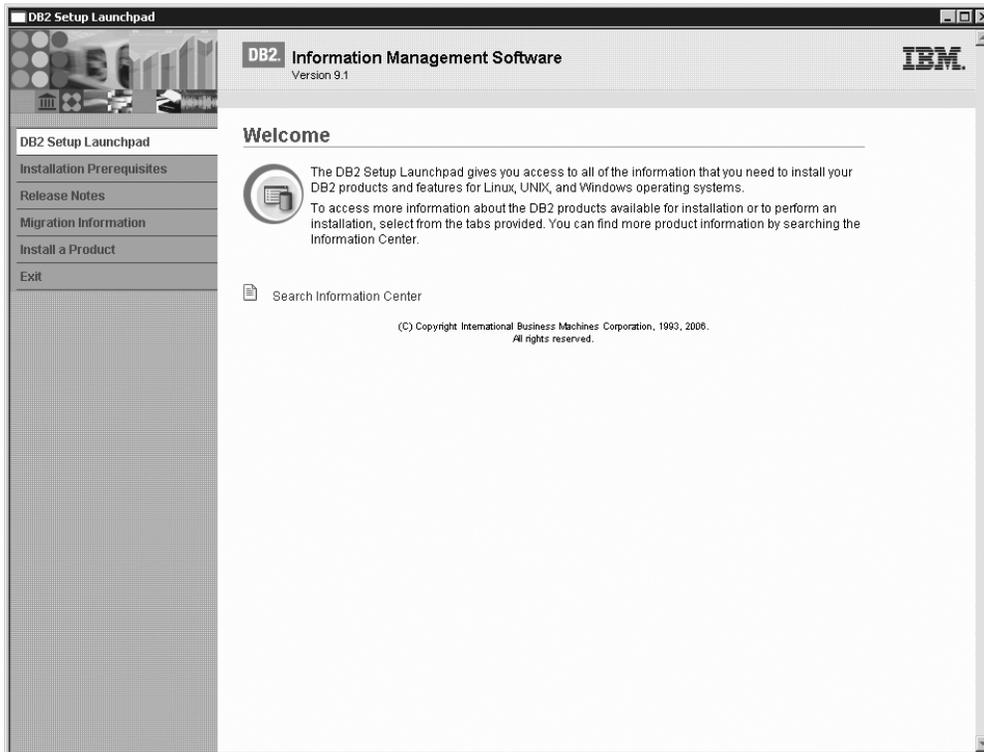


Figure 97. Welcome page of the DB2 Setup Launchpad

- On the "Welcome" page of the "IBM DB2 Setup Launchpad", click **Install a Product** to open the "Install a Product" page.

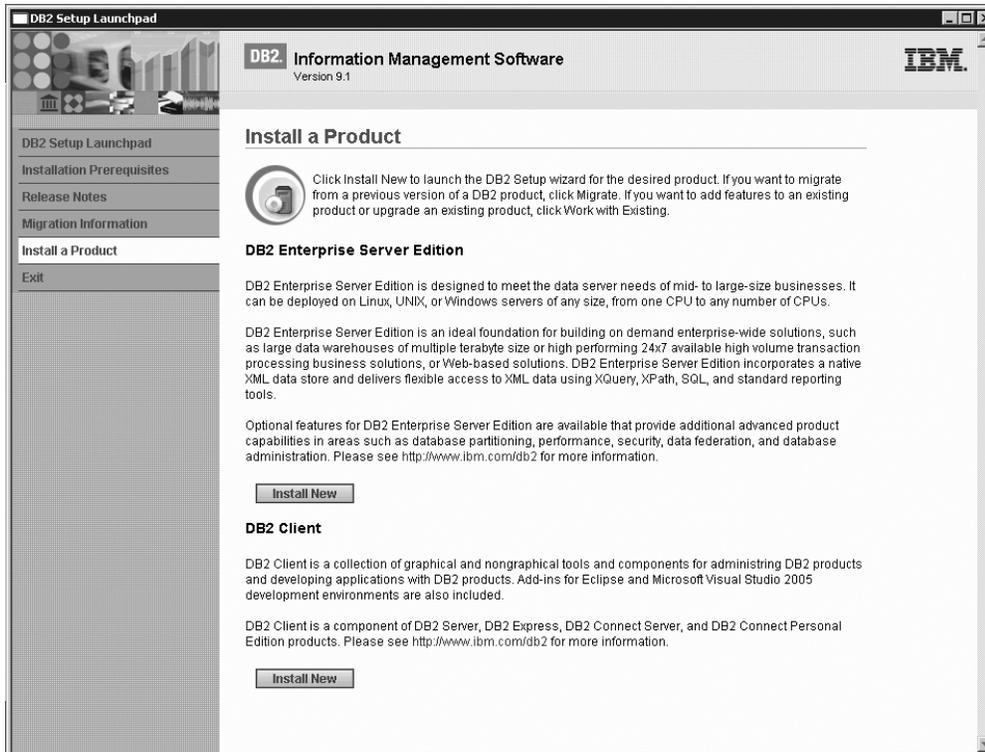


Figure 98. Install a Product page of the DB2 Setup Launchpad

7. On the "Install a Product" page of the "IBM DB2 Setup Launchpad", click the **Install New** button for **DB2 Enterprise Server Edition**. The "DB2 Setup wizard" opens.

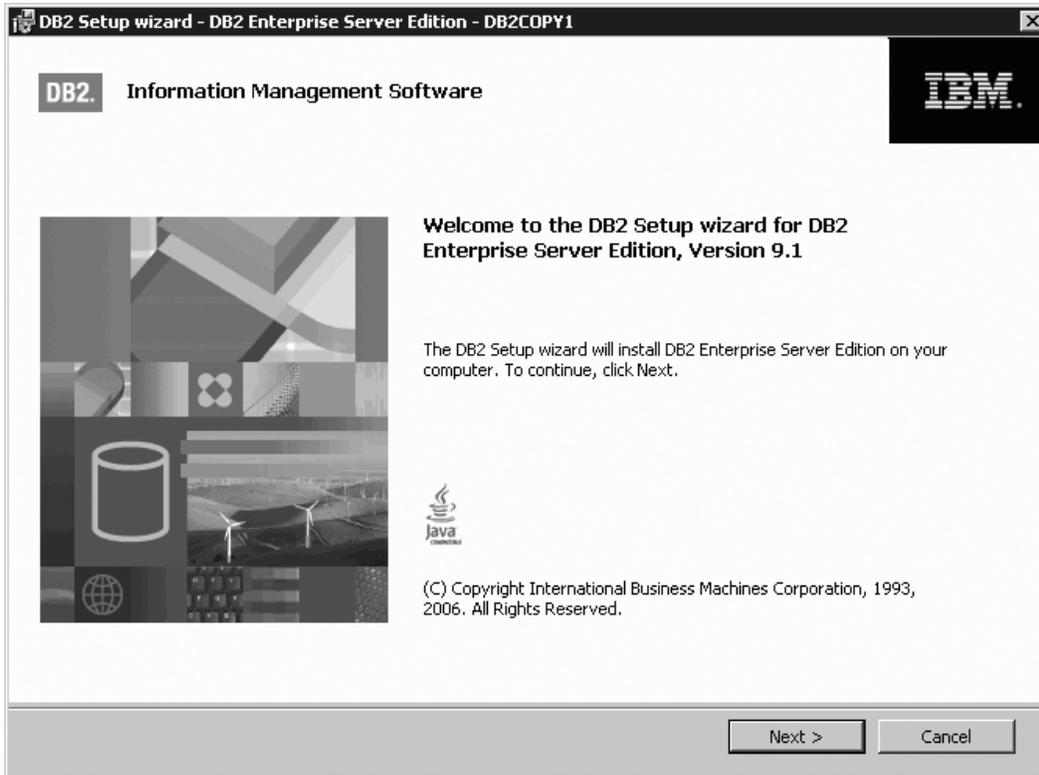


Figure 99. DB2 Setup wizard

8. Click **Next**. The "License Agreement" page opens.
9. On the "License Agreement" page:
 - a. After reviewing and agreeing to the license text, select the **I accept the terms in the license agreement** radio button:

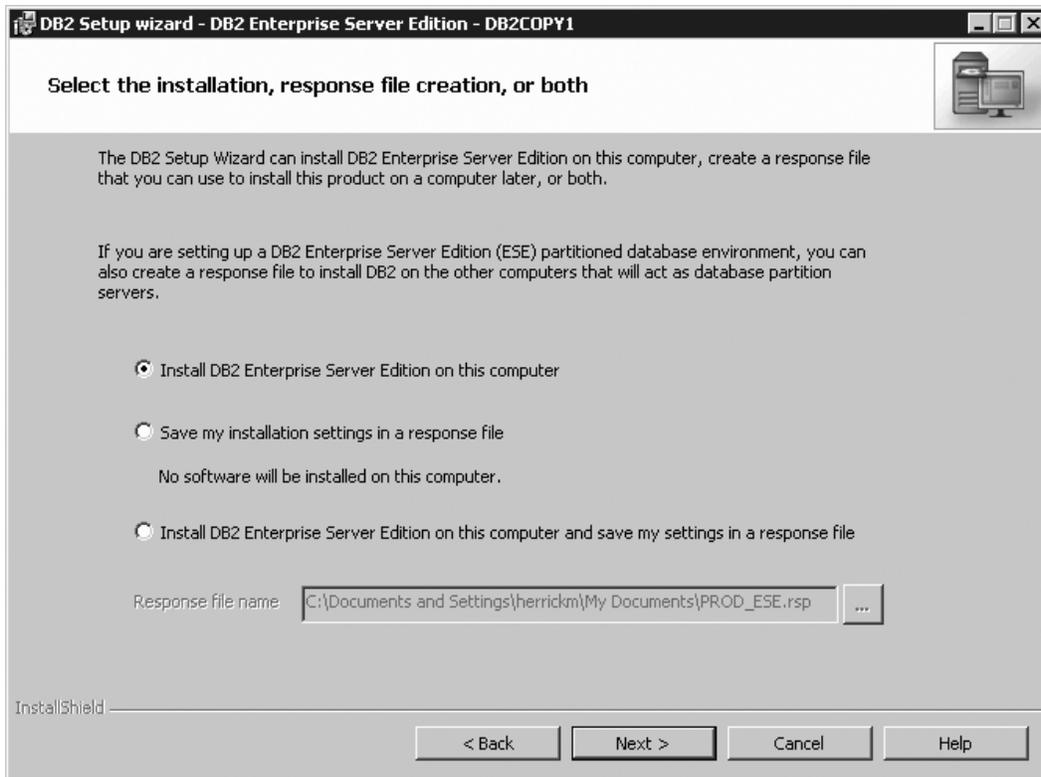


Figure 102. DB2 Setup wizard - Select the installation, response file creation, or both page

- b. Click **Next**. The "Select the features to install" page opens.

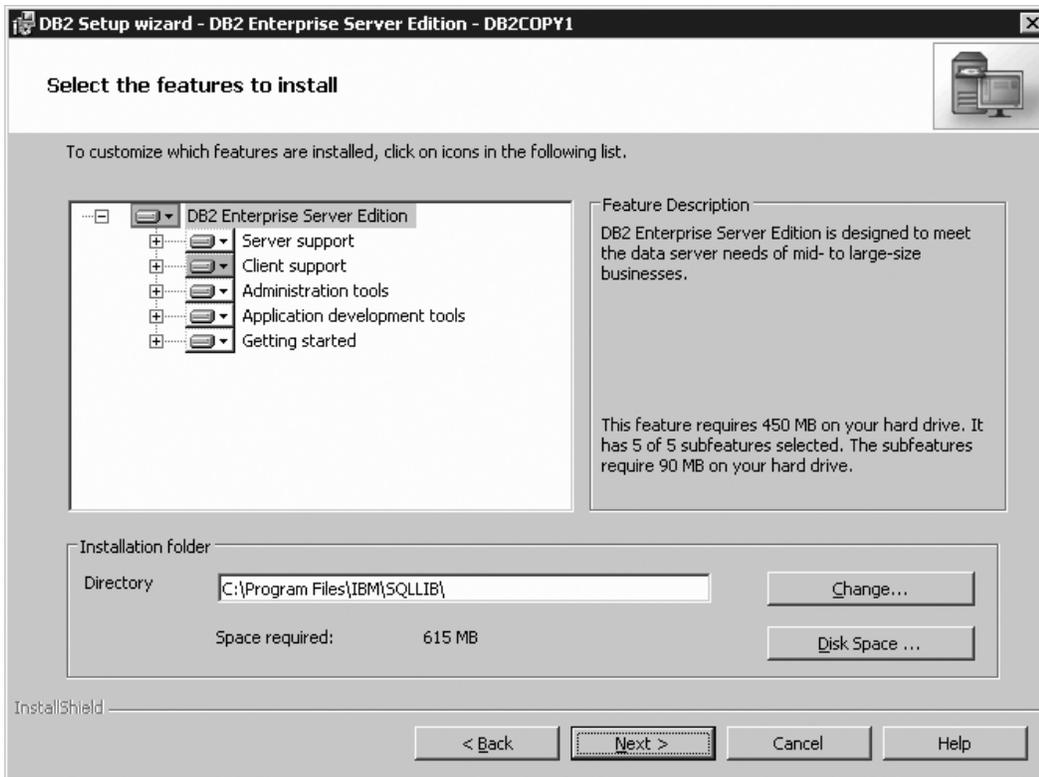


Figure 103. DB2 Setup wizard - Select the features to install page

12. On the "Select the features to install" page:
 - a. Open the + beside **Server support**.
 - b. Select the **Connect support** feature and left click. Select **This feature will not be available** from the pop-up menu to deselect the **Connect Support** feature.

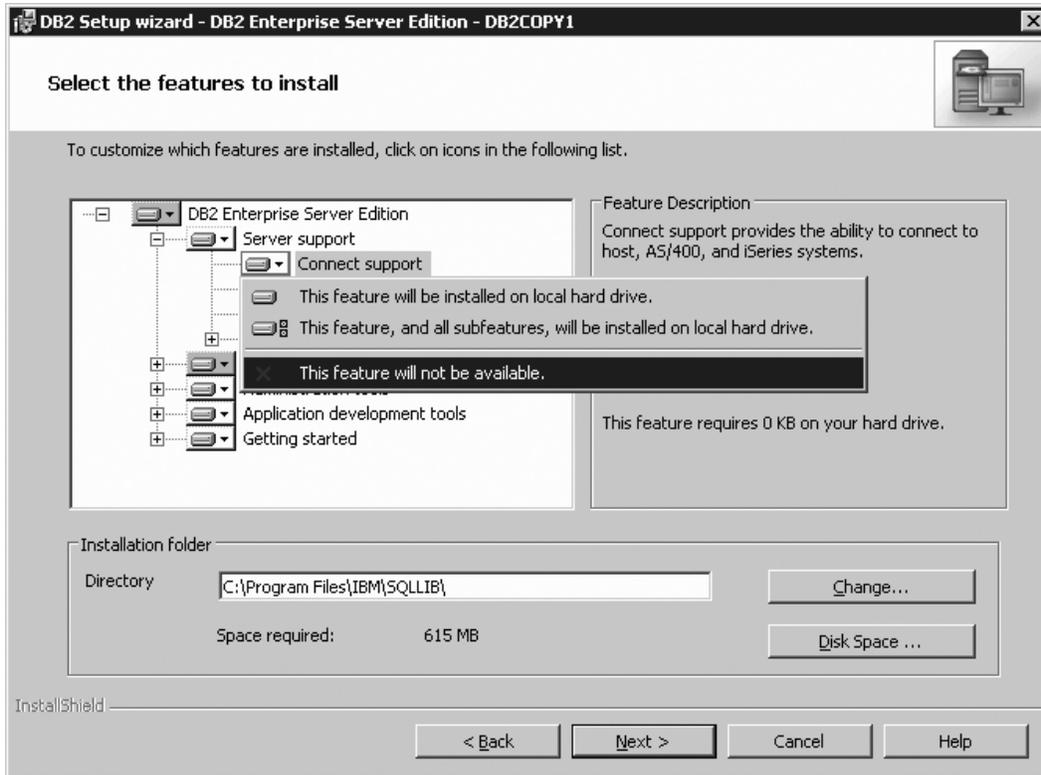


Figure 104. DB2 Setup wizard - Select the features to install page; Connect support feature deselected for installation

- c. Ensure that the following features under **Server support** are also deselected for installation:
- **Satellite Control Server**
 - **Informix data source support**

After the **Server support** features are deselected, open the + beside **Communication protocols**, and deselect the **NetBIOS Listener** feature and the **Named Pipes Listener** feature.

Note: Do *not* deselect the **TCP/IP Listener** feature.

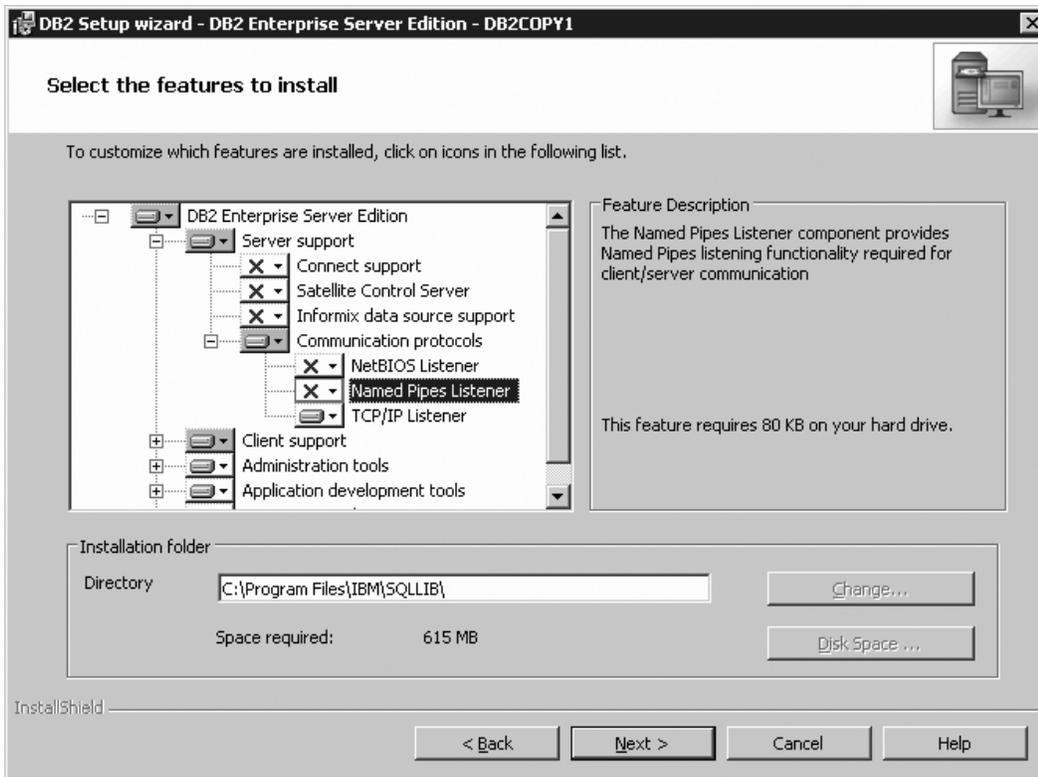


Figure 105. DB2 Setup wizard - Select the features to install page; all features except TCP/IP Listener deselected for installation

- d. Open the + beside **Client support**.
- e. Deselect the **DB2 LDAP support** feature.
- f. Open the + beside **Communication protocols**.
- g. Deselect the **NetBIOS** feature and the **Named Pipes** feature. These protocols are not supported in a Common Criteria compliant environment.

Note: TCP/IP is supported in a Common Criteria compliant environment. Do *not* deselect the **TCP/IP** feature.

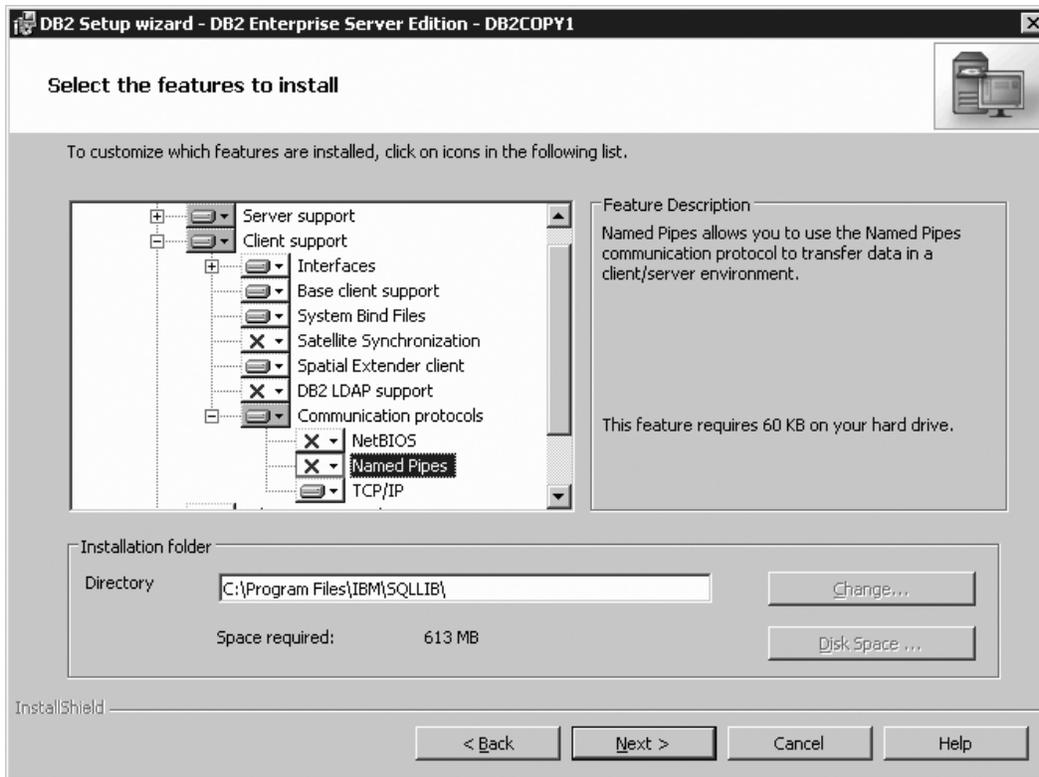


Figure 106. DB2 Setup wizard - Select the features to install page; NetBIOS and Named Pipes features deselected for installation

- h. Select the **Administration tools** feature, and left click. Select **This feature will not be available** from the pop-up menu to deselect the **Administration tools** feature.

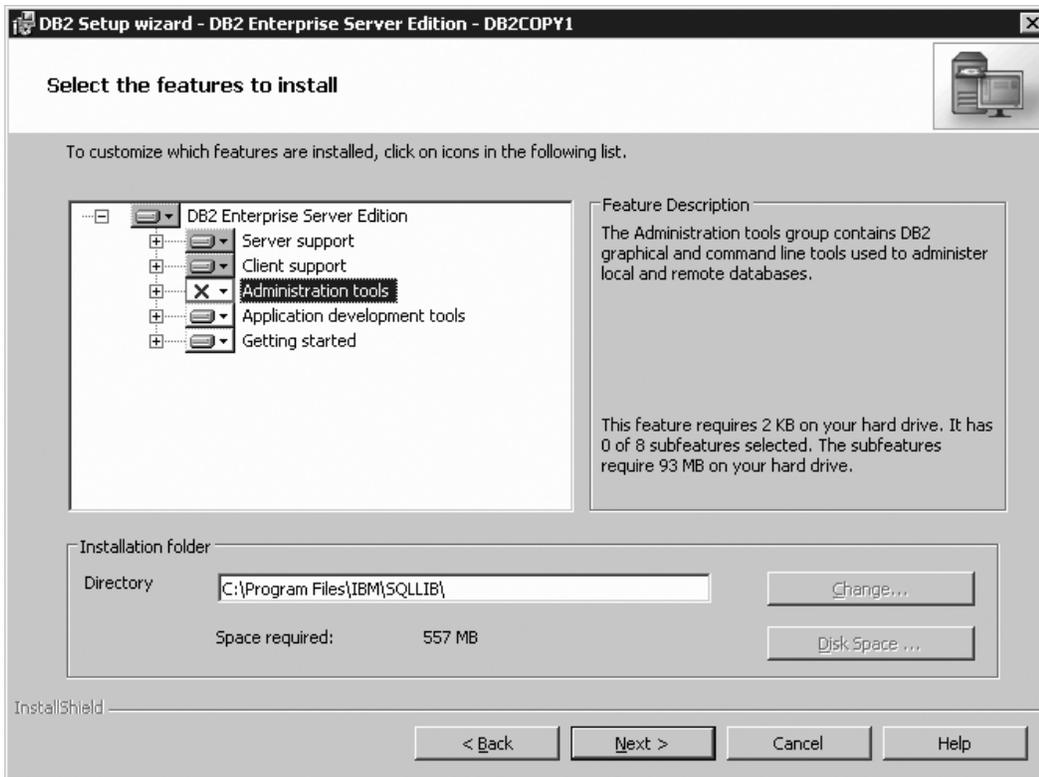


Figure 107. DB2 Setup wizard - Select the features to install page; Administration tools feature deselected for installation

- i. Open the + beside **Getting started**.
- j. Select the **First Steps** feature, and left click. Select **This feature will not be available** from the pop-up menu. Performing this action prevents the **First Steps** feature from being installed.

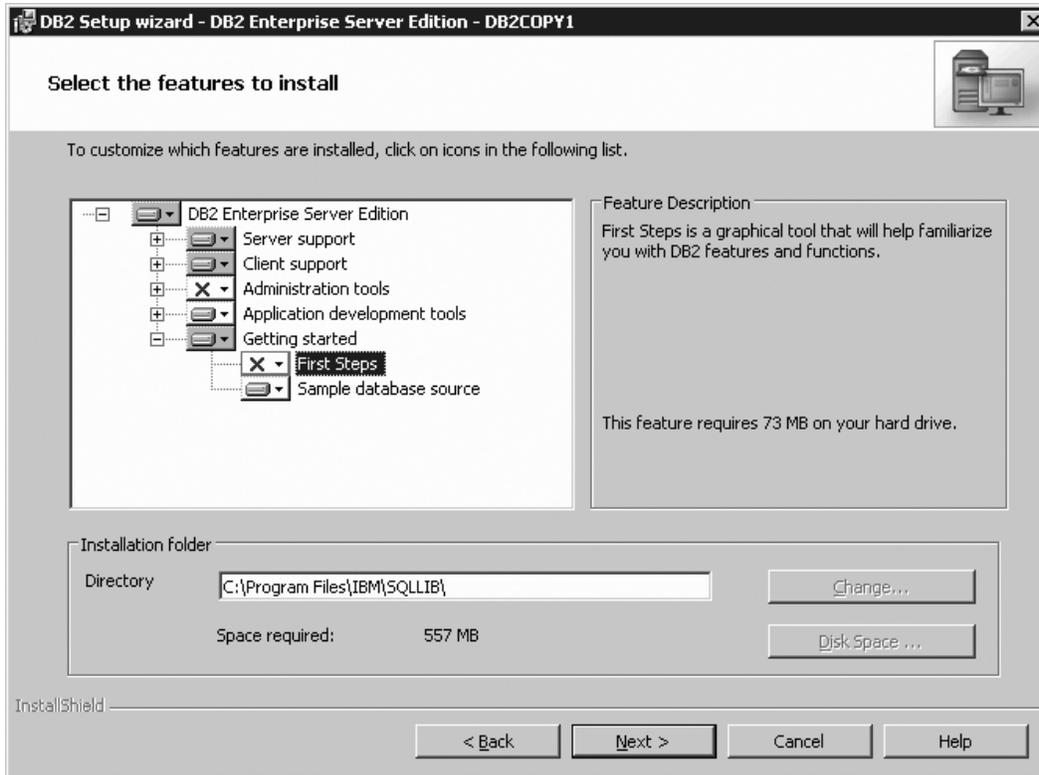


Figure 108. DB2 Setup wizard - Select the features to install page; First Steps feature deselected for installation

- k. Click **Next**. The "Select the languages to install" page opens.
13. On the "Select the languages to install" page, English is the only language support that is installed by default.

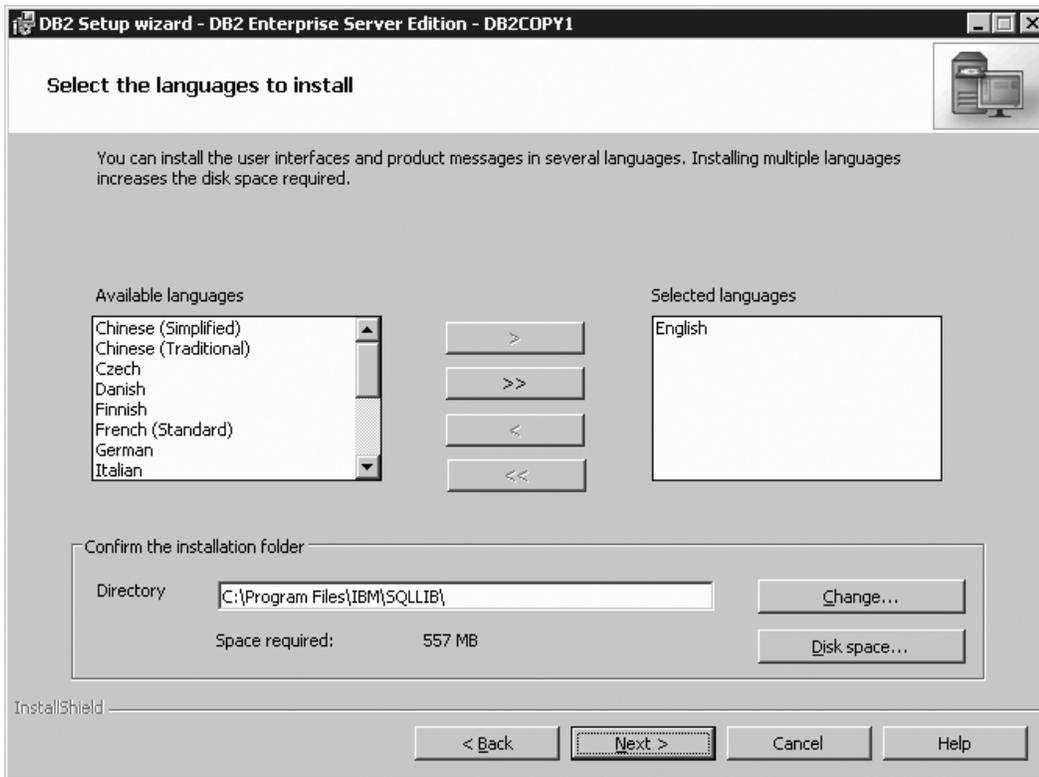


Figure 109. DB2 Setup wizard - Select the languages to install page; English language support selected for installation

14. Click Next. The "Set the DB2 copy name" page opens.

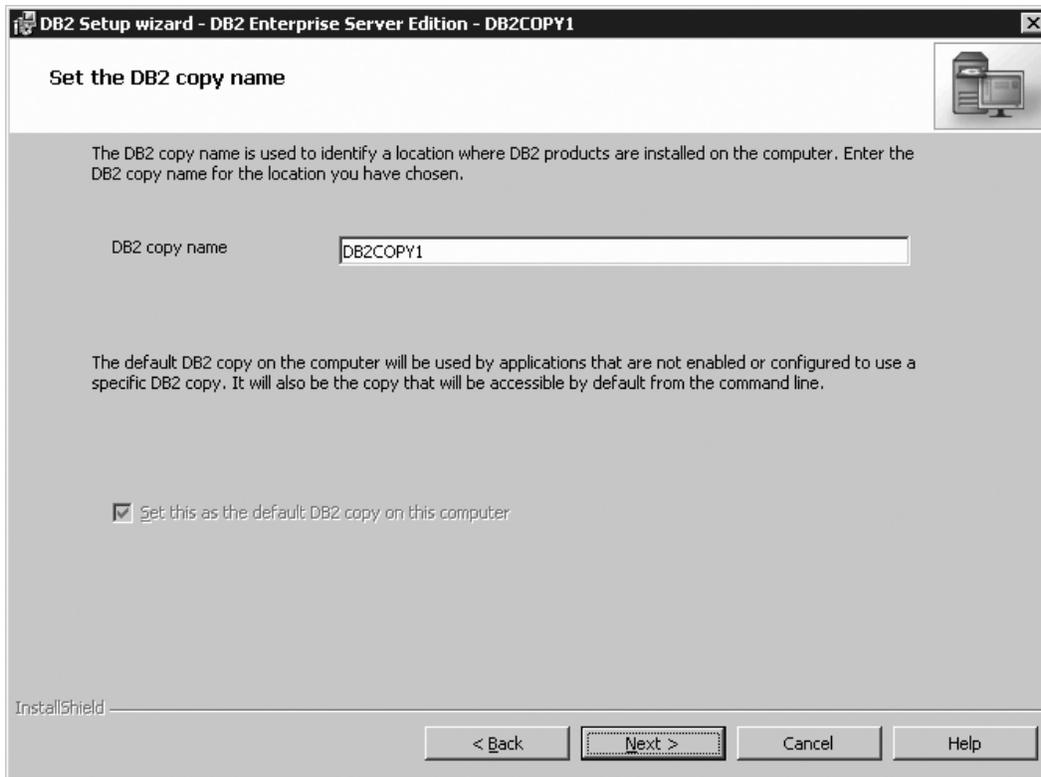


Figure 110. DB2 Setup wizard - Set the DB2 copy name page

15. Click **Next**. The "Specify the location of the DB2 Information Center" page opens.
16. On the "Specify the location of the DB2 Information Center" page:
 - a. Ensure that the **On the IBM Web site** radio button is selected.

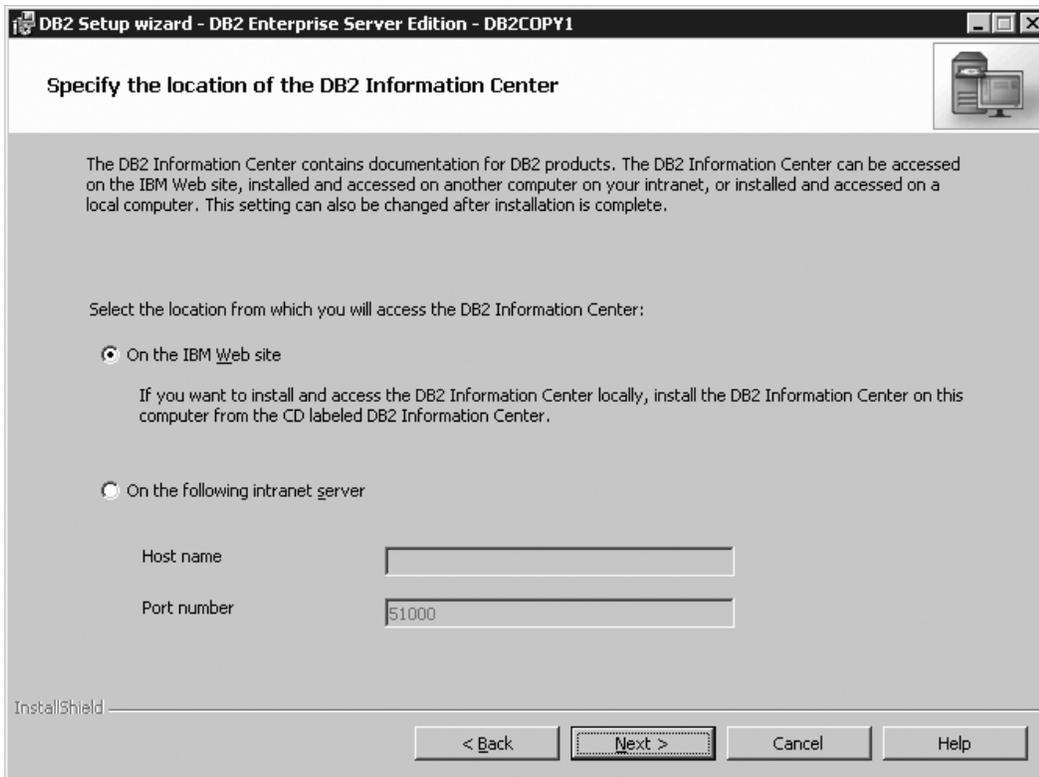


Figure 111. DB2 Setup wizard - Specify the location of the DB2 Information Center; On the IBM Web site option selected

- b. Click **Next**. The "Set user information for the DB2 Administration Server" page opens.
 17. On the "Set user information for the DB2 Administration Server" page:
 - a. Select the domain of the user from the **Domain** drop-down list.
 - b. Type the user name for the DB2 Administration Server in the **User name** field.
 - c. Type the password for the user in the **Password** field.
 - d. Type the password again in the **Confirm password** field.
 - e. Ensure that the **Use the same user name and password for the remaining DB2 services** check box is not selected.



Figure 112. DB2 Setup wizard - Set user information for the DB2 Administration Server page

- f. Click **Next**. The "Set up a DB2 instance" page opens.
18. On the "Set up a DB2 instance" page:
 - a. Ensure that the **Create the default DB2 instance** radio button is selected.

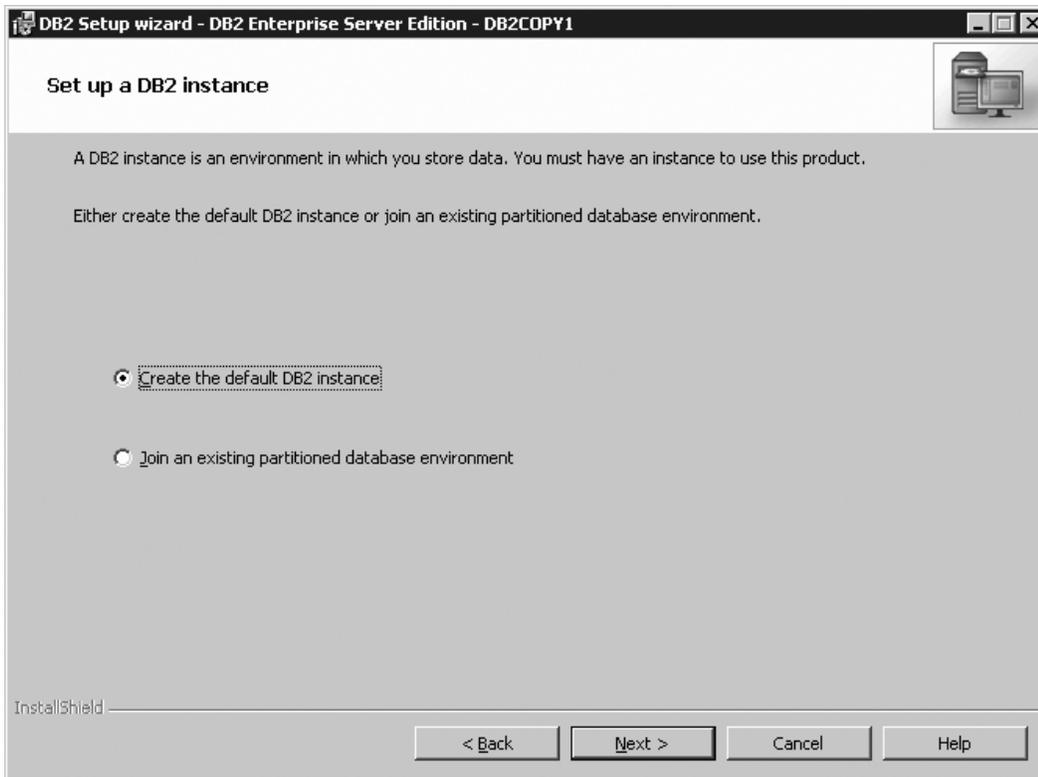


Figure 113. DB2 Setup wizard - Set up a DB2 instance page; Create the default DB2 instance option selected

- b. Click **Next**. The "Set up partitioning options for the default DB2 instance" page opens.
19. On the "Set up partitioning options for the default DB2 instance" page:
 - a. Ensure that the **Single partition instance** radio button is selected.

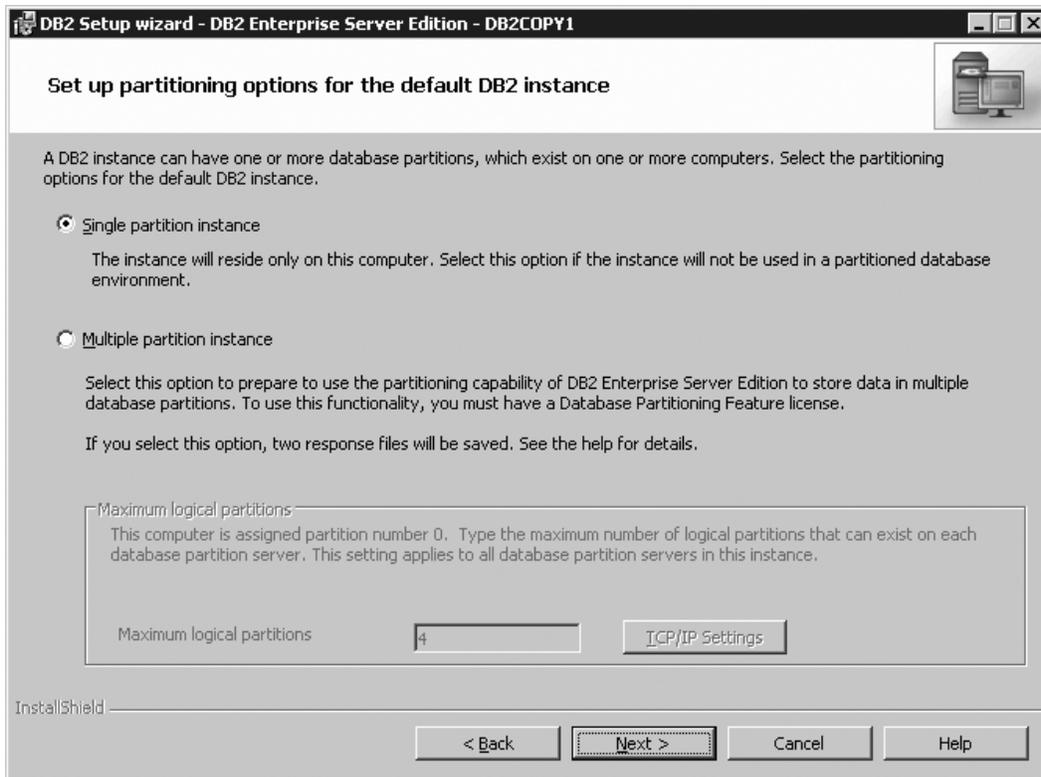


Figure 114. DB2 Setup wizard - Set up partitioning options for the default DB2 instance page

- b. Click **Next**. The "Configure DB2 instances" page opens.

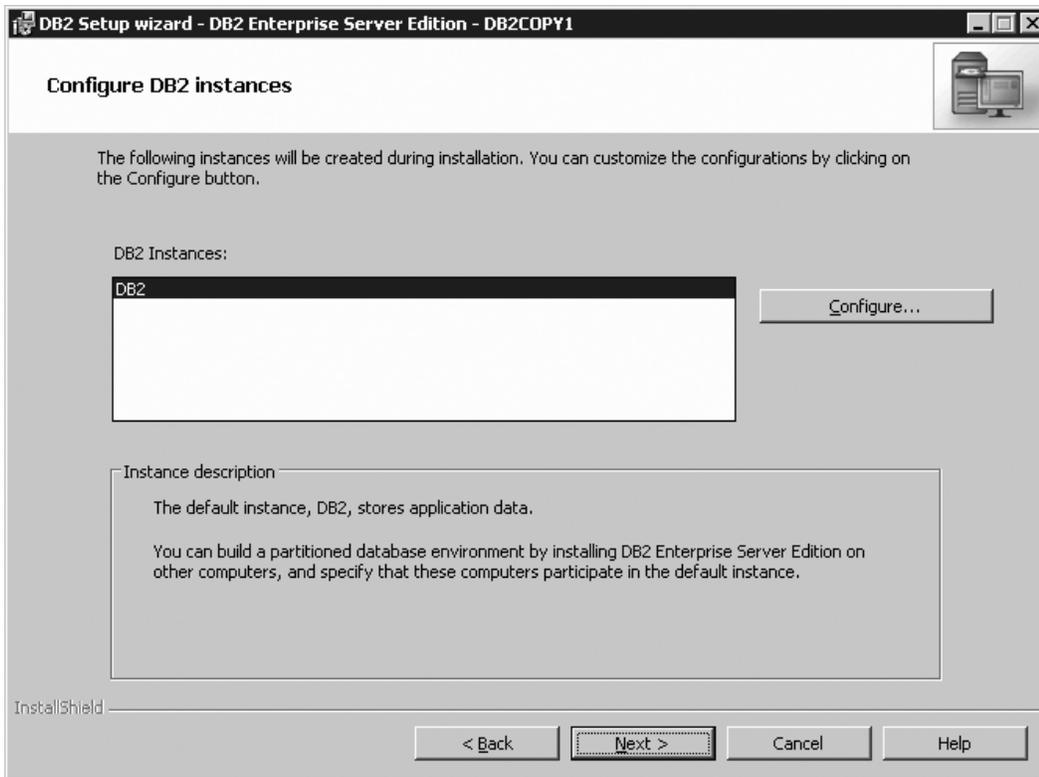


Figure 115. Configure DB2 instances page

20. On the "Configure DB2 instances" page, select **Configure**. The "DB2 instance configuration" window opens.
21. On the "DB2 instance configuration" page:
 - a. On the "Startup" tab, select the **Do not autostart the instance. The instance must be started manually.** radio button.

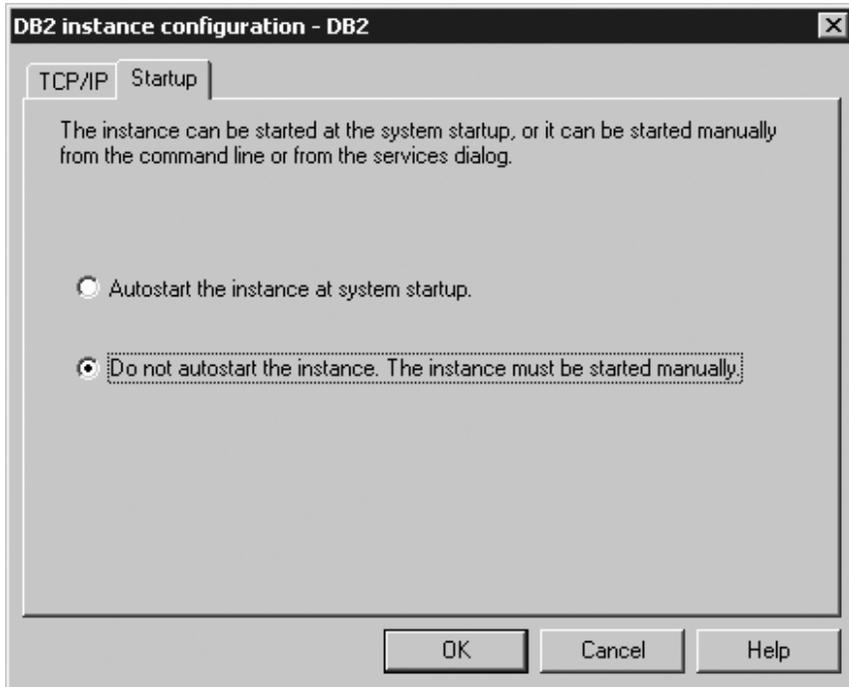


Figure 116. DB2 instance configuration window

- b. Click **OK**. The "DB2 instance configuration" window closes.
 - c. On the "Configure DB2 instances" page, click **Next**. The "Set user information for the default DB2 instance" page opens.
22. On the "Set user information for the DB2 instance" page:
 - a. Select the domain of the user from the **Domain** drop-down list.
 - b. Type the user name for the instance in the **User name** field.
 - c. Type the password for the user in the **Password** field.
 - d. Type the password again in the **Confirm password** field.
 - e. Ensure that the **Use the same user name and password for the remaining DB2 services** check box is not selected.

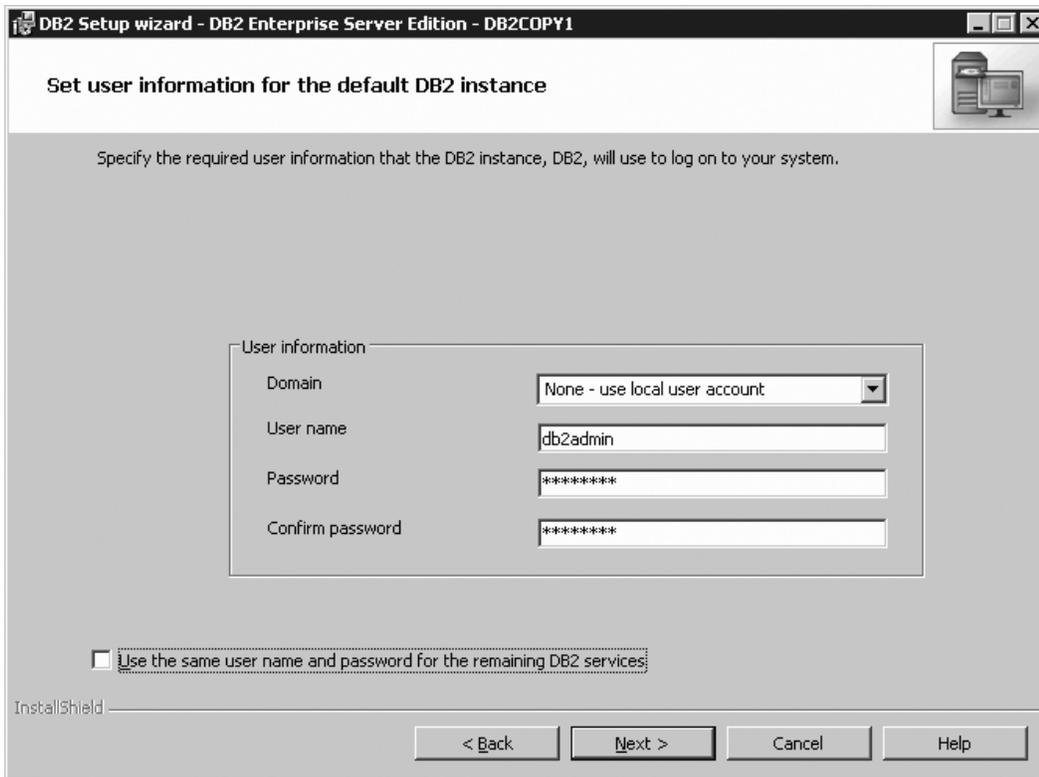


Figure 117. DB2 Setup wizard - Set user information for the DB2 instance

- f. Click **Next**. The "Prepare the DB2 tools catalog" page opens.
- 23. On the "Prepare the DB2 tools catalog" page:
 - a. Ensure that the **Prepare the DB2 tools catalog** check box is deselected.

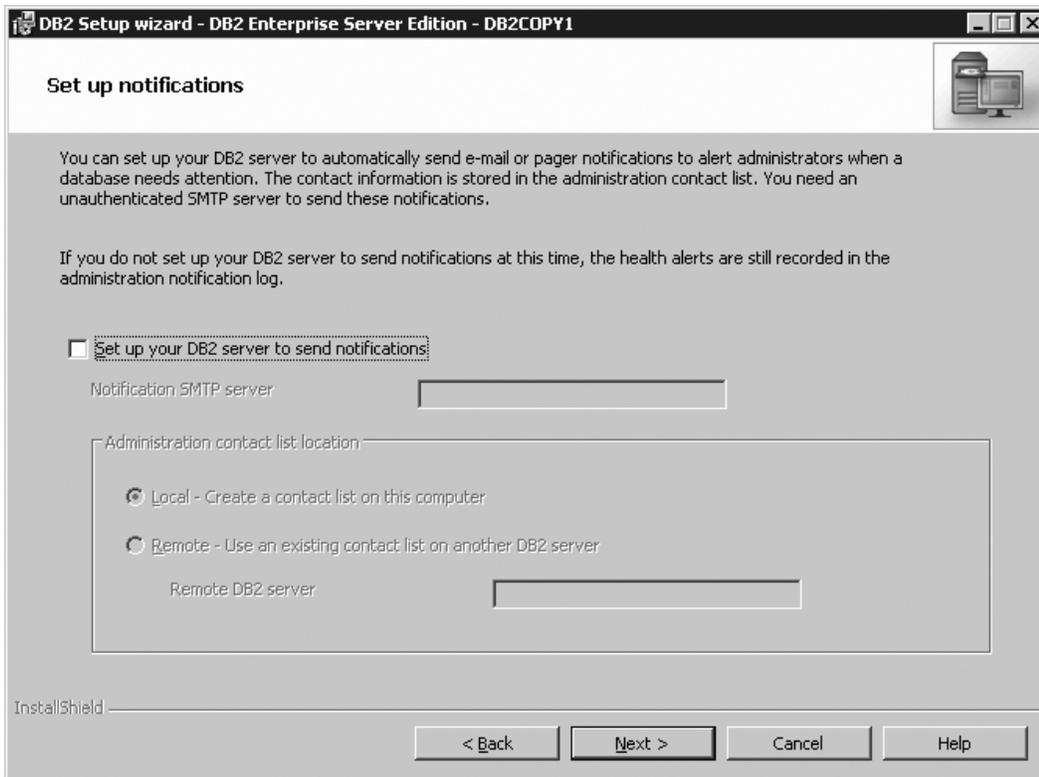


Figure 119. DB2 Setup wizard - Set up notifications page

- b. Click **Next**. The "Enable operating system security for DB2 objects" page opens.
25. On the "Enable operating system security for DB2 objects" page:
 - a. Ensure that the **Enable operating system security** check box is deselected.

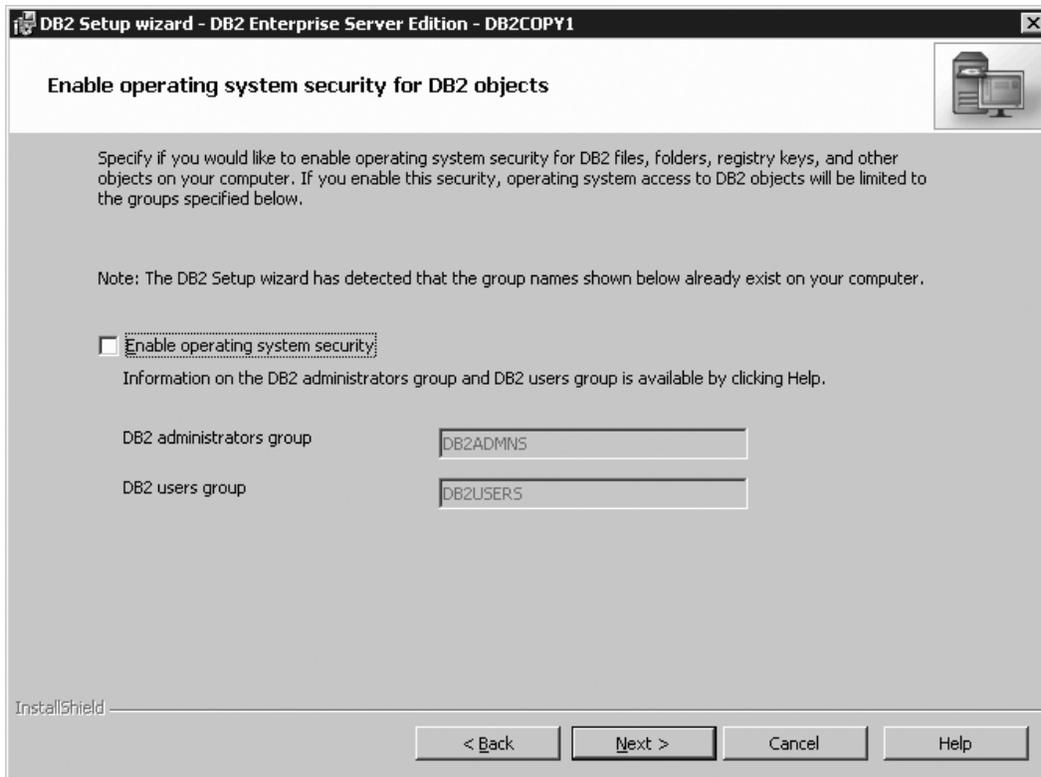


Figure 120. DB2 Setup wizard - Enable operating system security for DB2 objects page

- b. Click **Next**. The "Start copying files" page opens.

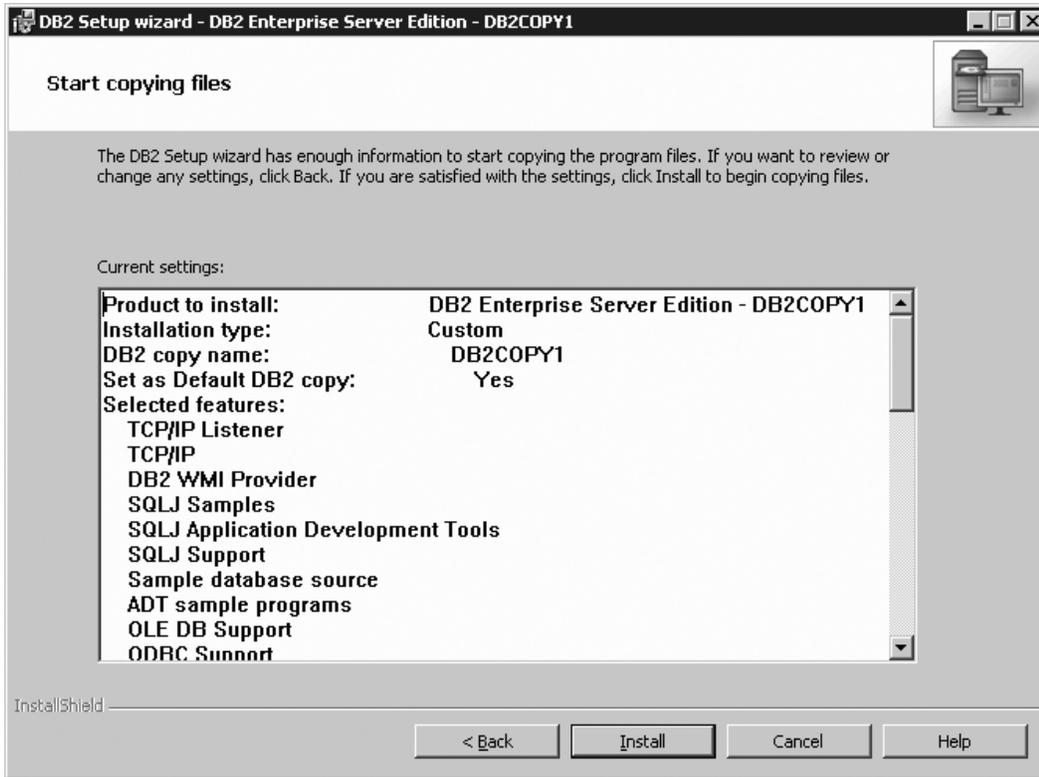


Figure 121. DB2 Setup wizard - Start copying files page

26. On the "Start copying files" page, click **Install** to begin installing DB2 on your computer.
The "Installing DB2 Enterprise Server Edition" page opens.

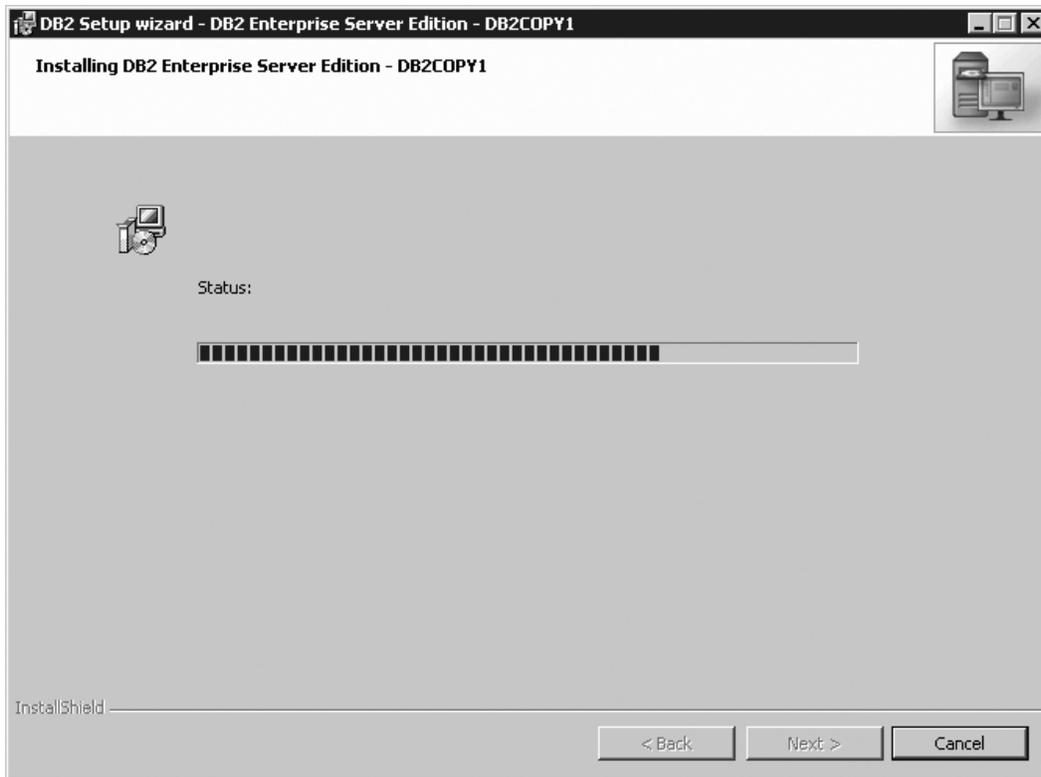


Figure 122. DB2 Setup wizard - Installing DB2 Enterprise Server Edition page

Note: If a window called "Digital Signature Not Found" opens, click **Yes** to continue.

When the installation completes, the "Setup is complete" page opens.

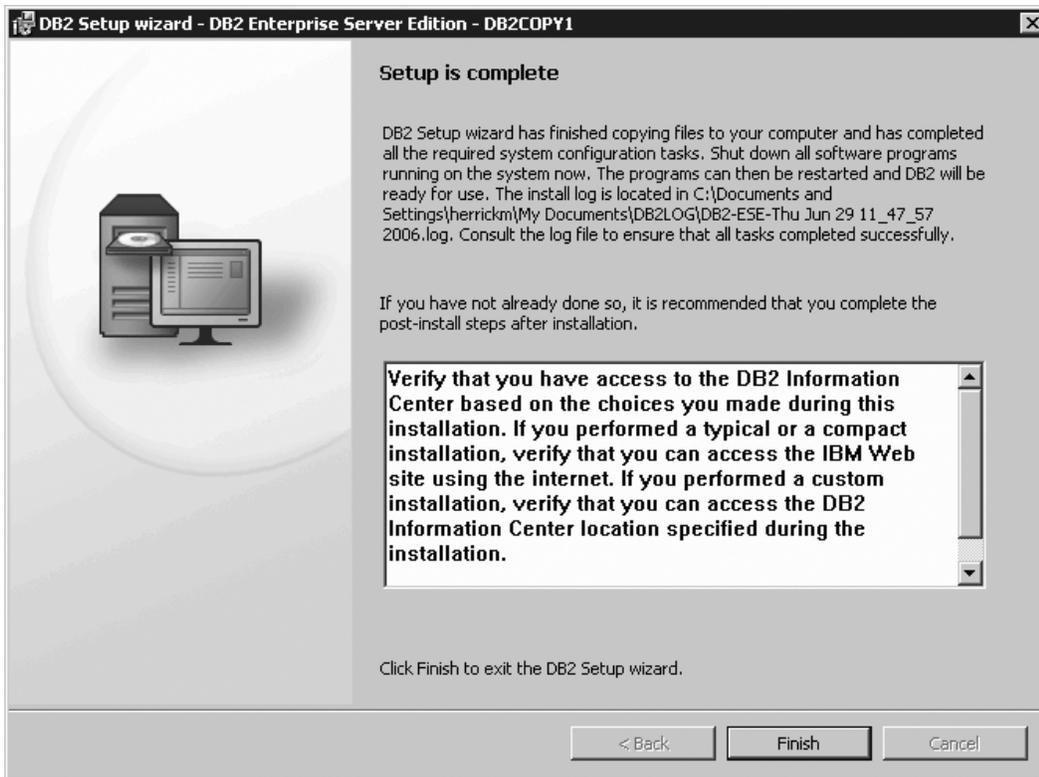


Figure 123. DB2 Setup wizard - Setup is complete page

Click **Finish** to exit from the "DB2 Setup wizard".

27. Activate the license files. See the topic " Registering a DB2 product or feature license key using the db2licm command".

After DB2 Enterprise 9 is installed, see the topic on configuring DB2 to be Common Criteria compliant in the *IBM DB2 Common Criteria Certification: Administration and User Documentation* book.

Chapter 6. Installing multi-partition Common Criteria compliant environments

The following topics describe how to install multi-partition Common Criteria compliant environments.

Installing DB2 Enterprise 9 on AIX 5.3 for a multipartition Common Criteria compliant installation

This task provides detailed instructions on installing DB2 Enterprise 9 on AIX 5.3 for a Common Criteria compliant installation.

Prerequisites:

- The prerequisites listed in "Installation requirements for DB2 clients and servers (AIX)" must be met.
- The prerequisites listed in "Updating environment settings for a partitioned DB2 installation (AIX)" must be met.
- The prerequisites listed in "Verifying that NFS is running (Linux and UNIX)" must be met.
- The prerequisites listed in "Creating a DB2 home file system for a partitioned database system (AIX)" must be met.
- The computer on which you install DB2 must be physically protected from untrusted users.
- AIX 5.3 must be installed on the computer with hot fix IY83580. The hot fix is available at: <ftp://service.software.ibm.com/aix/efixes/iy83580/>
- You must have the file `v9fp1_aix_ese.tar.gz` downloaded to the directory of your choice. You must download this file to the same directory on all computers that will participate in the environment. This file is available from the DB2 9 download site (<http://ibm.com/software/data/db2/udb/support/downloadv9.html>).
- You must have downloaded the applicable activation files from the Passport Advantage site to the same directory on all participating computers. You require these files to activate Enterprise 9 after installation. The instance owner must have read/write authority on this directory.
 - One of the following:
 - `DB2_Enterpr_Svr_Auth_User_Activation.zip`. Required to activate DB2 Enterprise 9 if you purchase DB2 Enterprise 9 on a per user basis.
 - `DB2_Enterprise_Svr_Ed_CPU_Activation.zip`. Required to activate DB2 Enterprise 9 if you purchase DB2 Enterprise 9 on a per CPU basis.
 - `DB2_Database_Partitioning_Activation.zip`. Required to activate the Database Partitioning Feature (DPF)
 - `DB2_Advanced_Access_Cntrl_Activation.zip`. Required to activate label-based access control (LBAC).
- The user names to be used for the following:
 - The DB2 instance owner
 - The DB2 Administration Server
 - The fenced user

If you do not have these user names, obtain them from your system administrator. For more information about these users, see “DB2 users and groups (Linux and UNIX)” on page 26. For information about creating these users, see “Creating group and user IDs for a DB2 database installation (Linux and UNIX)” on page 30.

The topic "Installing DB2 servers (Linux and UNIX)" provides an overview of installing on Linux and UNIX-based platforms.

Procedure:

Use the following steps to install DB2 Enterprise 9 on AIX 5.3 for a Common Criteria compliant environment.

1. Log on to the system as a user with root authority.
2. Decompress the product file:
`gzip -d v9fp1_aix_ese.tar.gz`
3. Untar the product file:
`tar xvf v9fp1_aix_ese.tar`
4. Repeat steps 1, 2, and 3 for every computer that will participate in the partitioned database environment.
5. Change directory on the computer that you want to use as the instance owner:
`cd $HOME/ese/disk1`
6. On the computer that you want to use as the instance owner, issue the `./db2setup` command to open the "IBM DB2 Setup Launchpad" at the "Welcome" page:



Figure 124. Welcome page of the DB2 Setup Launchpad

7. On the "Welcome" page of the "IBM DB2 Setup Launchpad", click **Install a Product** to open the "Install a Product" page.

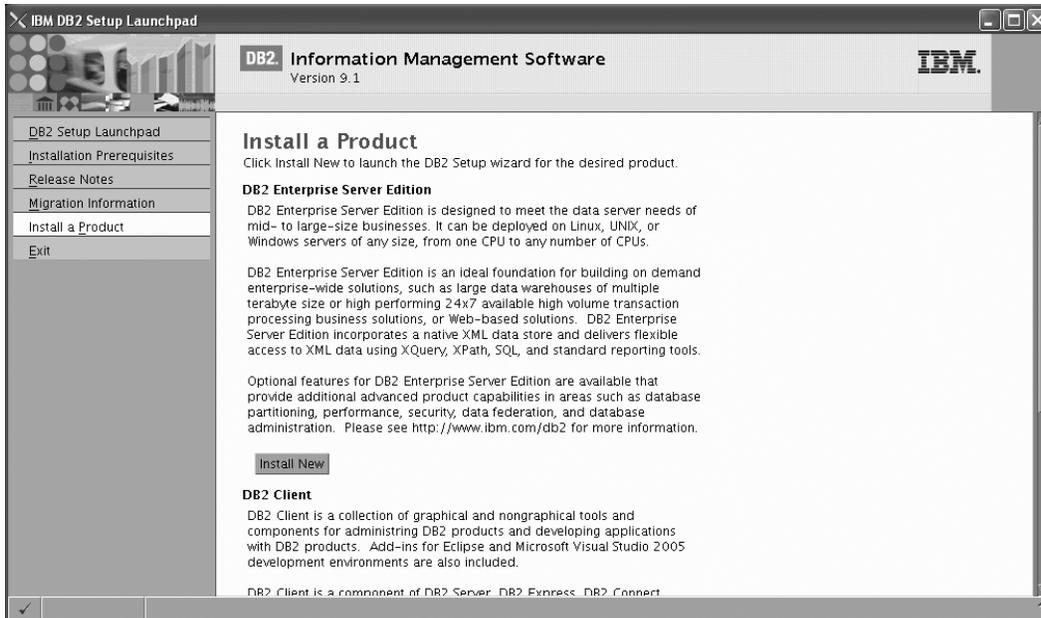


Figure 125. Install a Product page of the DB2 Setup Launchpad

8. On the "Install a Product" page of the "IBM DB2 Setup Launchpad", click the **Install New** button for **DB2 Enterprise Server Edition**
The "DB2 Setup wizard" opens.



Figure 126. DB2 Setup wizard

9. Click **Next**. The "Software License Agreement" page opens.
10. On the "License Agreement" page:
 - a. After reviewing and agreeing to the license text, select the **Accept** radio button:

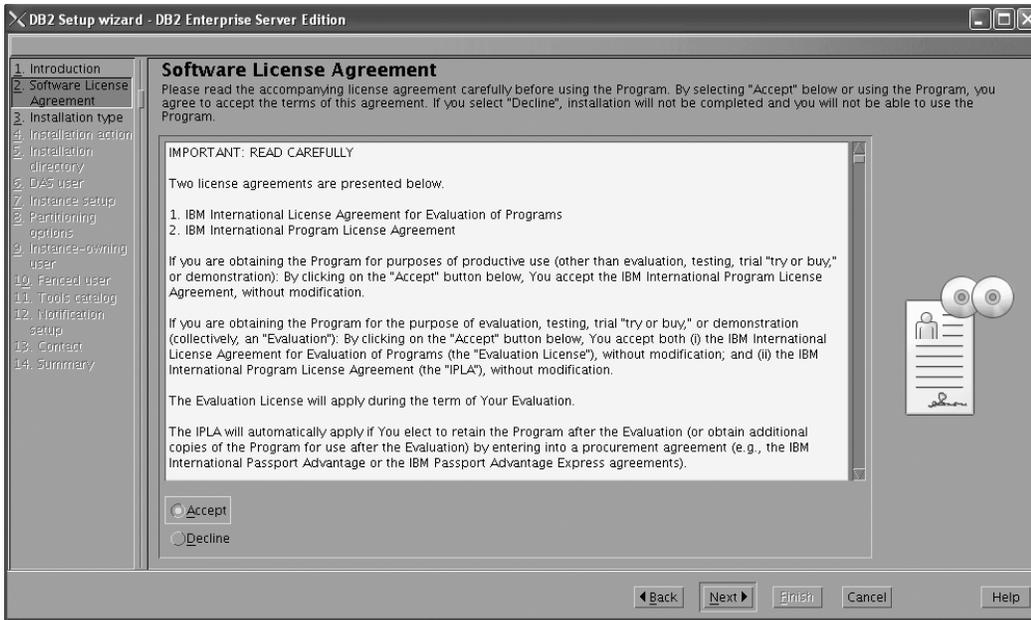


Figure 127. DB2 Setup wizard - Software Licence Agreement page

- b. Click **Next**. The "Select the installation type" page opens.
11. On the "Select the installation type" page:
 - a. Select the **Custom** radio button:

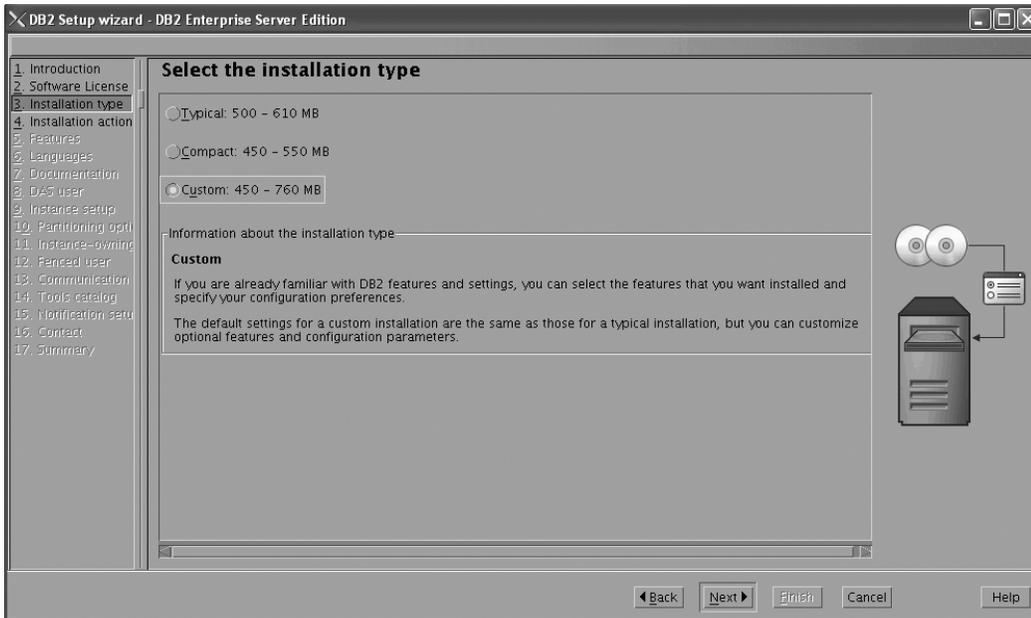


Figure 128. DB2 Setup wizard - Select the installation type page

- b. Click **Next**. The "Select the installation, response file creation, or both" page opens.
12. On the "Select the installation, response file creation, or both" page:
 - a. Select the **Install DB2 Enterprise Server Edition on this computer and save my settings in a response file** radio button.

- b. Use the default value listed in the **Response file name** field. Subsequent installs for the partitioned database environment are performed using the response file db2ese.rsp in the /tmp directory. Using the response file guarantees a consistent setup of the database environment on all participating computers.

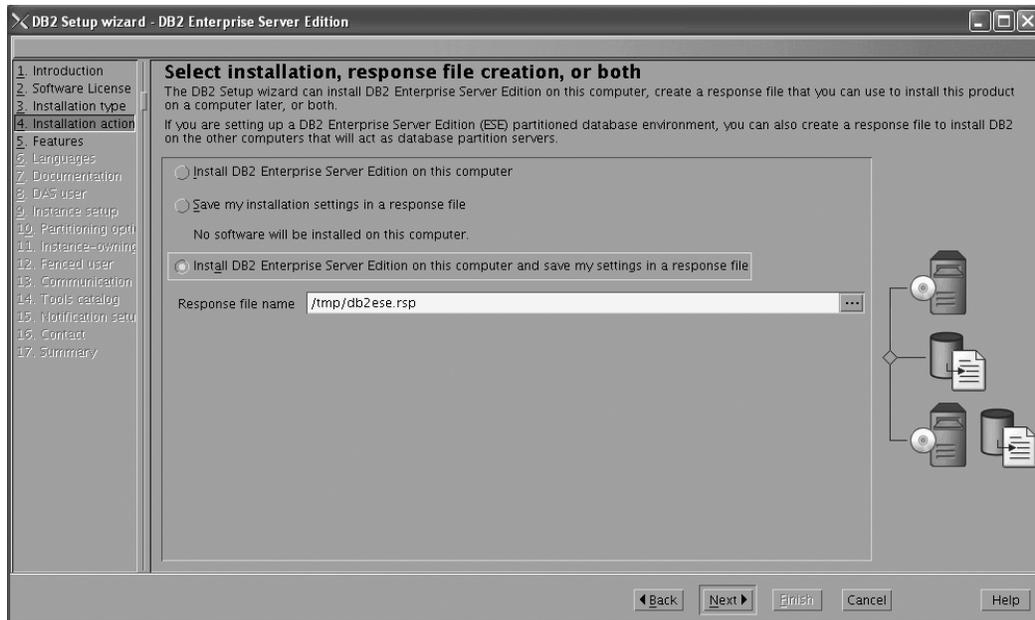


Figure 129. DB2 Setup wizard - Select the installation, response file creation, or both page

- c. Click **Next**. The "Select the features to install" page opens.

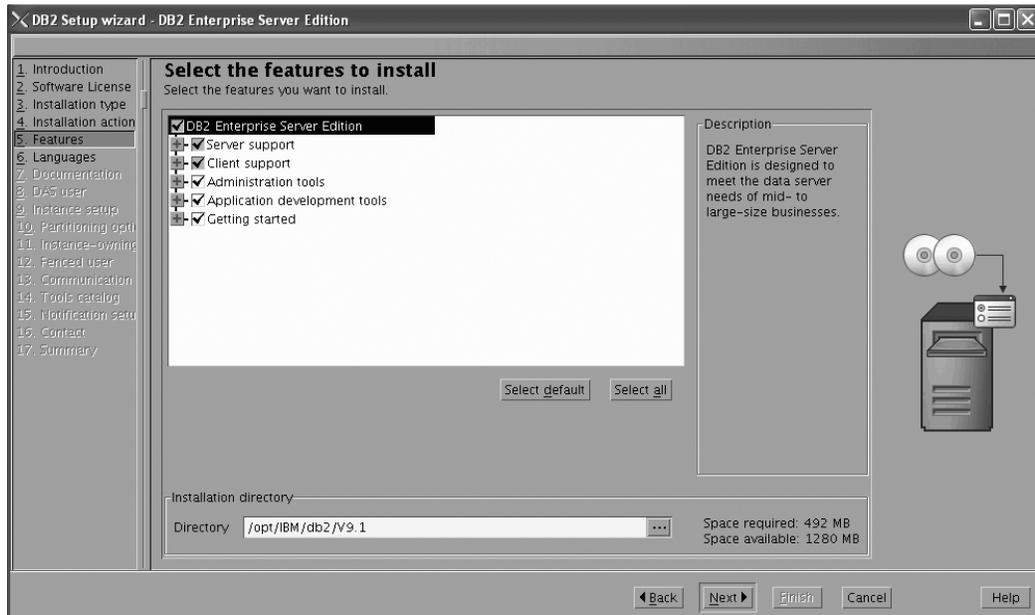


Figure 130. DB2 Setup wizard - Select the features to install page

13. On the "Select the features to install" page:
 - a. Open the + beside **Client support**.

- b. Select the **DB2 LDAP support** feature to remove the check mark.

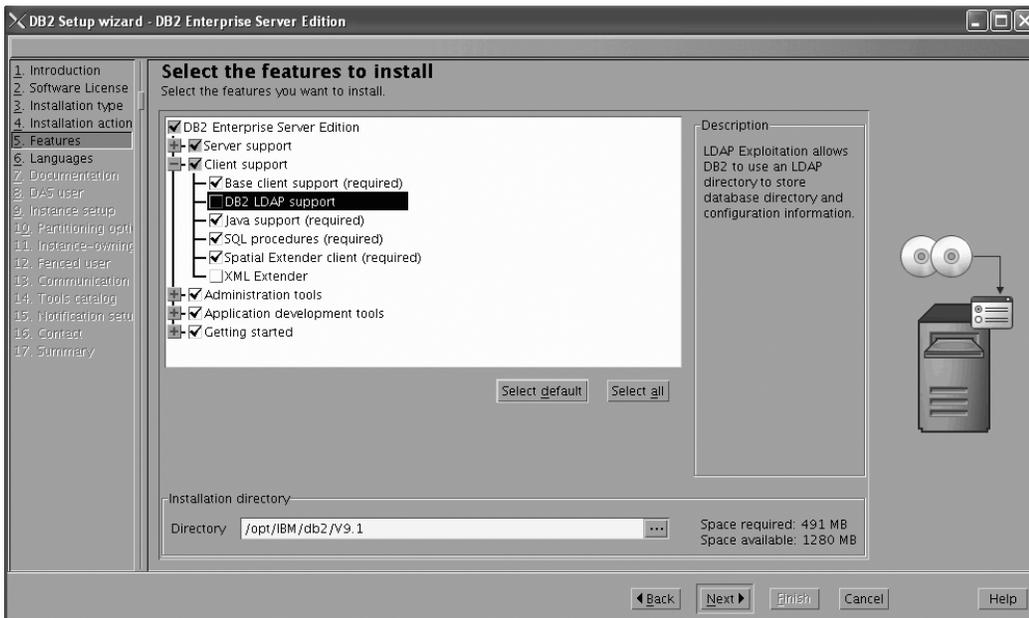


Figure 131. DB2 Setup wizard - Select the features to install page; DB2 LDAP support feature deselected for install

- c. Open the + beside **Administration tools**.
- d. Ensure that the following features under **Administration tools** are deselected for installation:
- **DB2 Instance Setup wizard**
 - **DB2 Web Tools**

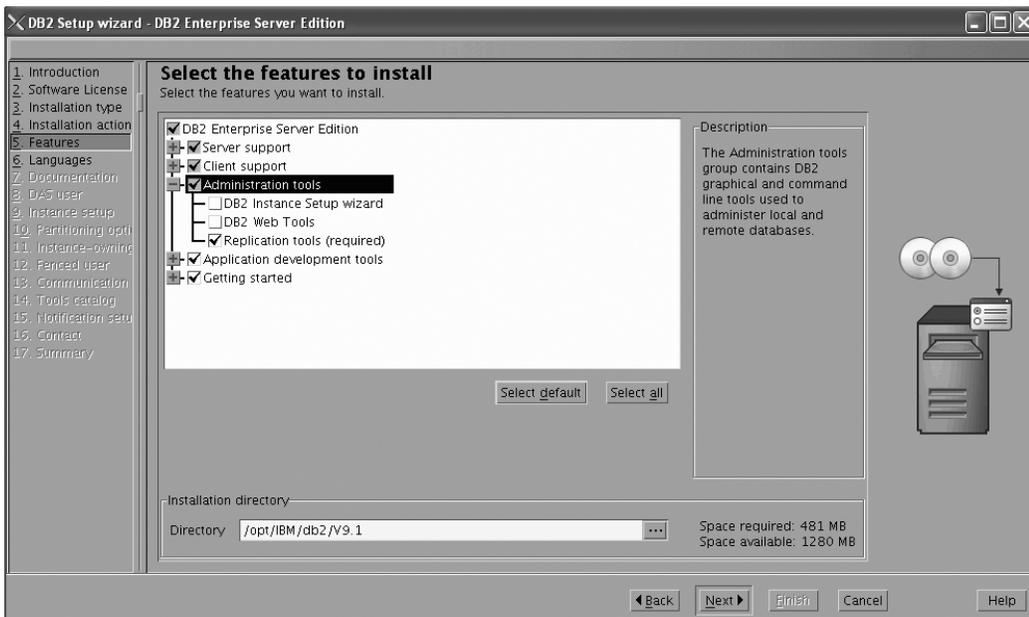


Figure 132. DB2 Setup wizard - Select the features to install page; Administration tools features deselected for install

- e. Open the + beside **Application development tools**.

- f. Ensure that the **ADT sample programs** feature and the **Spatial Extender samples** feature are deselected for installation.

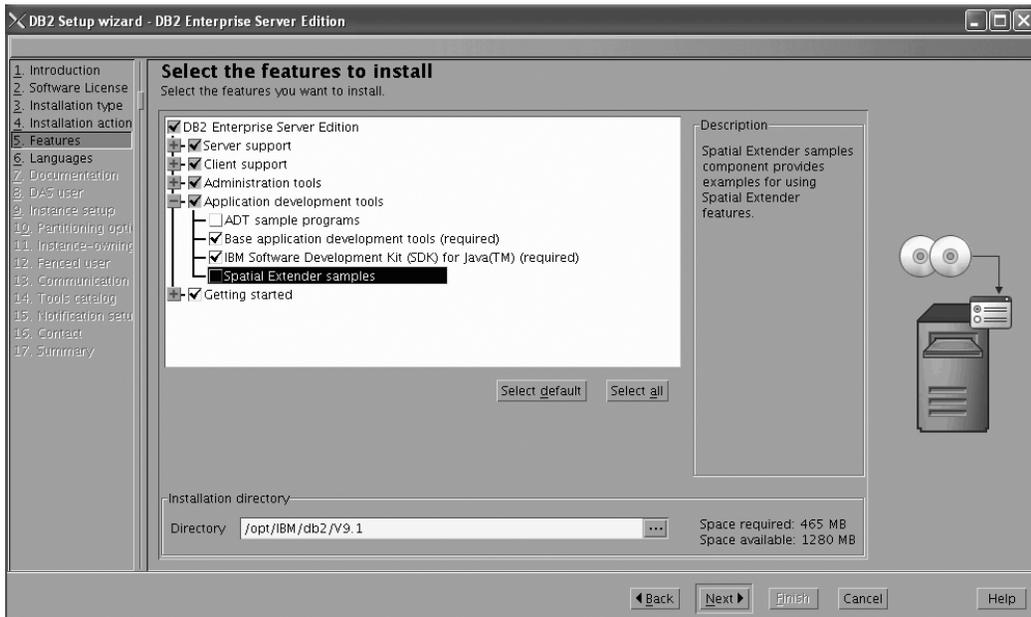


Figure 133. DB2 Setup wizard - Select the features to install page; Application development tools features deselected for installation

- g. Open the + beside **Getting started**.
- h. Ensure that the **First Steps** feature and the **XML Extender samples** feature are deselected for installation.

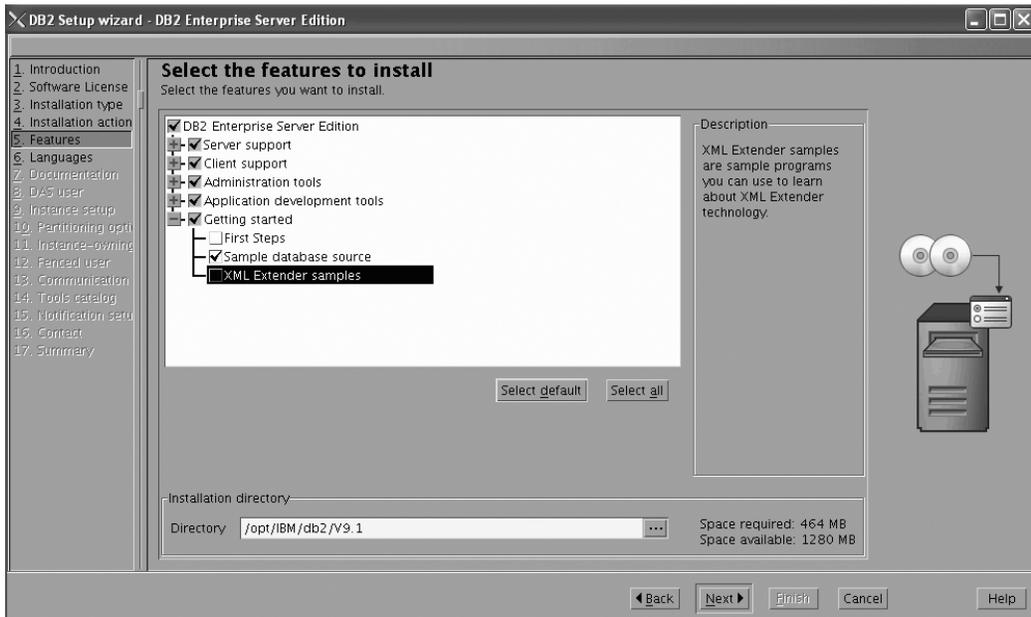


Figure 134. DB2 Setup wizard - Select the features to install page; Getting started features deselected for installation

- i. Click **Next**. The "Select the languages to install" page opens.

14. On the "Select the languages to install" page, English is the only language support that is installed by default.

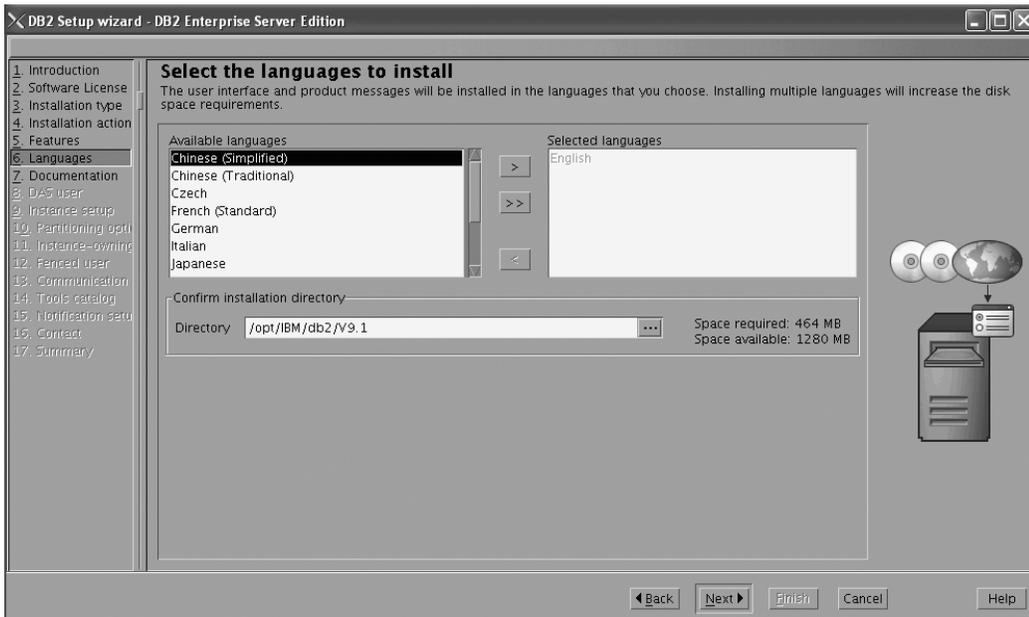


Figure 135. DB2 Setup wizard - Select the languages to install page; English language support selected for installation

15. Click **Next**. The "Specify the location of the DB2 Information Center" page opens.
16. On the "Specify the location of the DB2 Information Center" page:
 - a. Ensure that the **On the IBM Web site** radio button is selected.

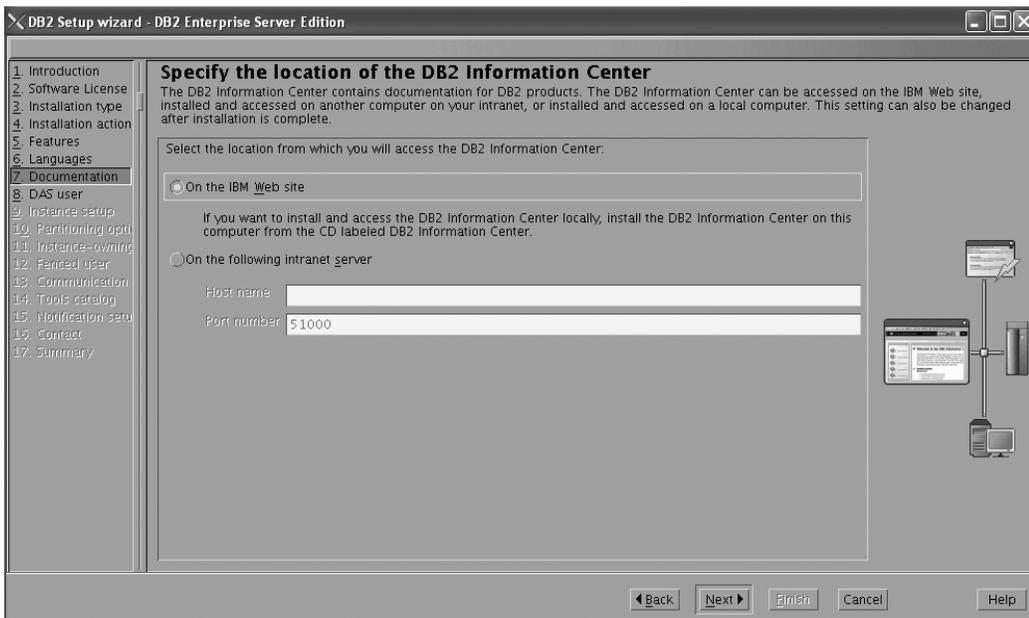


Figure 136. DB2 Setup wizard - Specify the location of the DB2 Information Center; On the IBM Web site option selected

- b. Click **Next**. The "Set user information for the DB2 Administration Server" page opens.
17. On the "Set user information for the DB2 Administration Server" page:
 - a. Select the **Existing user** radio button.
 - b. Use the ... button to select the user previously defined for the DB2 Administration Server.

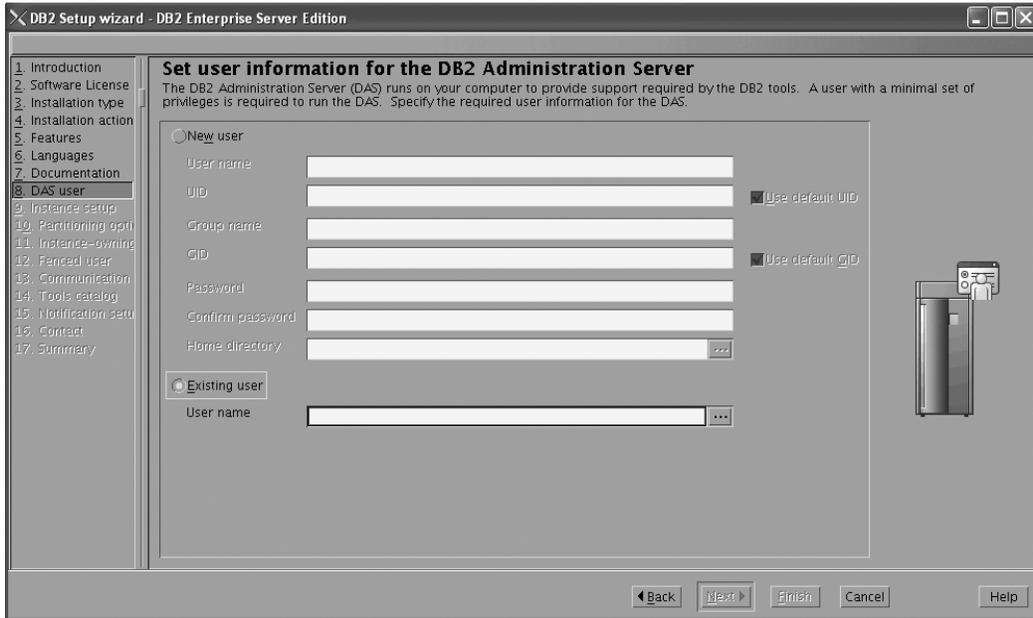


Figure 137. DB2 Setup wizard - Set user information for the DB2 Administration Server page

- c. Click **Next**. The "Set up a DB2 instance" page opens.
18. On the "Set up a DB2 instance" page:
 - a. Ensure that the **Create a DB2 instance** radio button is selected.

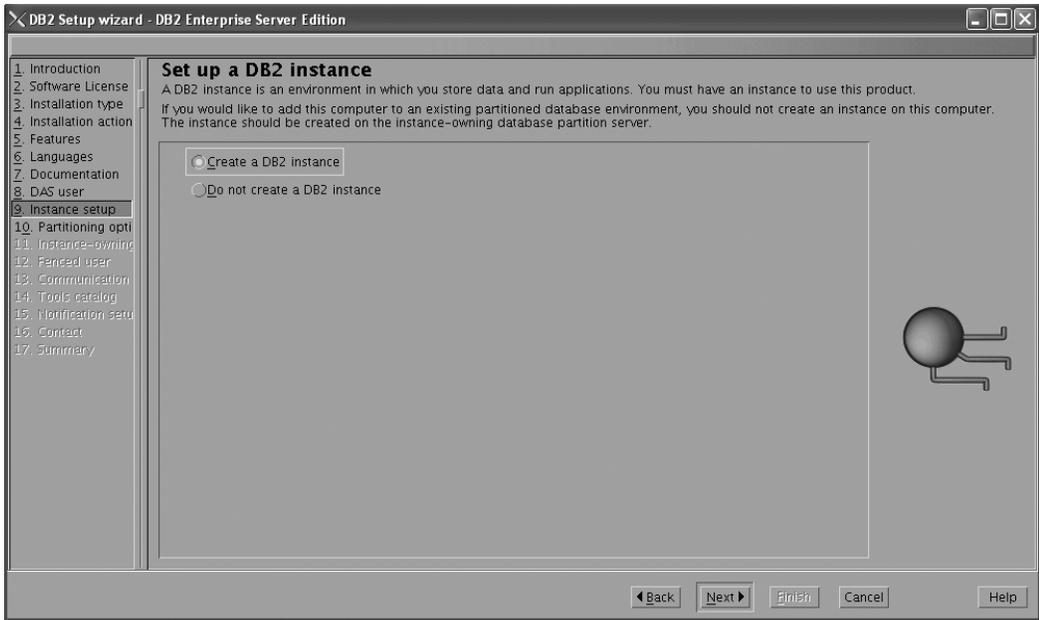


Figure 138. DB2 Setup wizard - Set up a DB2 instance page; Create a DB2 instance option selected

- b. Click **Next**. The "Set up partitioning options for the DB2 instance" page opens.
19. On the "Set up partitioning options for the DB2 instance" page:
 - a. Select the **Multiple partition instance** radio button.
 - b. Type 2 for the **Maximum logical partitions** field.

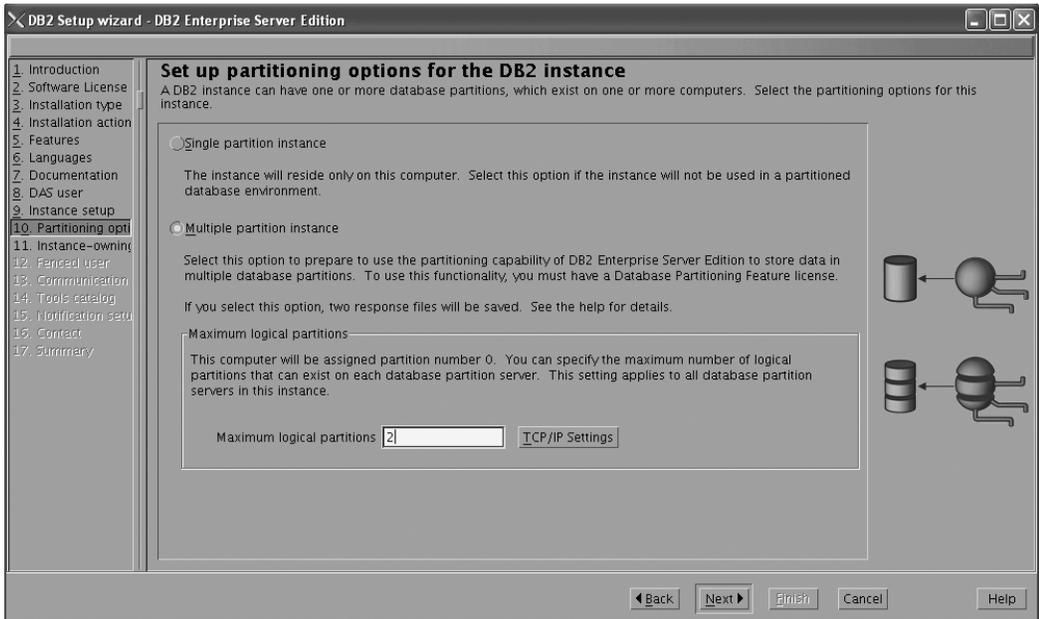


Figure 139. DB2 Setup wizard - Set up partitioning options for the DB2 instance page

Note: For the Common Criteria certification, an SMP configuration of two logical partitions on two computers is demonstrated. Depending on your requirements, it is possible to install one logical partition per computer, or more than two logical partitions per computer. Because

a response file is used to install DB2 Enterprise Server Edition on all subsequent computers, the environment will be consistent across all computers that participate in the partitioned database environment.

- c. Click **Next**. The "Set user information for the DB2 instance owner" page opens.
20. On the "Set user information for the DB2 instance owner" page:
 - a. Select the **Existing user** radio button.
 - b. Use the ... button to select the user previously defined for the DB2 instance owner.

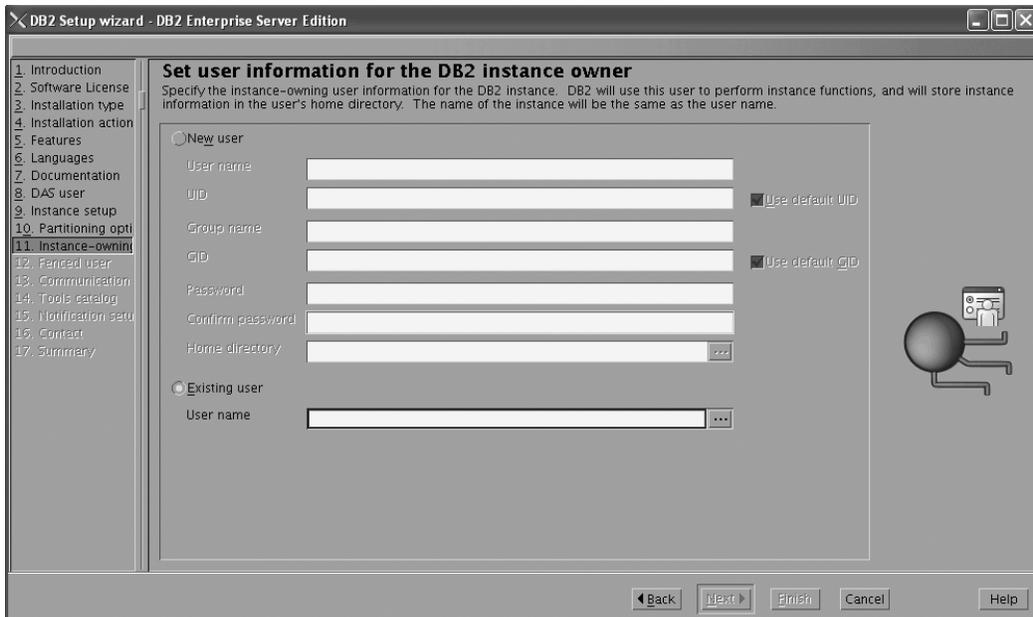


Figure 140. DB2 Setup wizard - Set user information for the DB2 instance owner page

- c. Click **Next**. The "Set user information for the fenced user" page opens.
21. On the "Set user information for the fenced user" page:
 - a. Select the **Existing user** radio button.
 - b. Use the ... button to select the user previously defined for the fenced user.

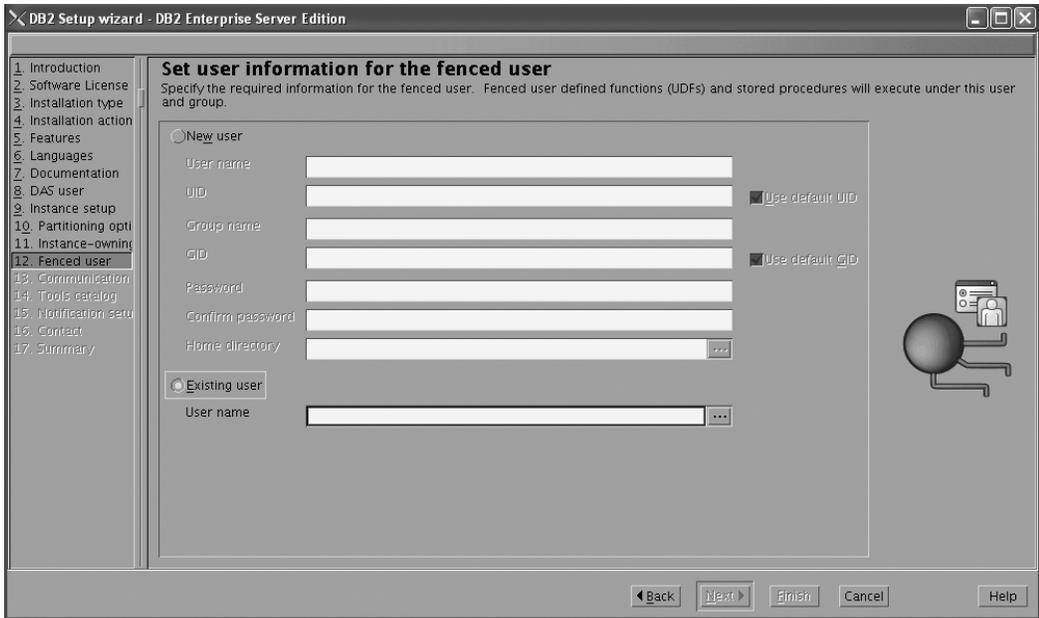


Figure 141. DB2 Setup wizard - Set user information for the fenced user page

- c. Click **Next**. The "Configure instance communication and startup" page opens.
22. On the "Configure instance communication and startup" page:
 - a. Select the **Configure** radio button.
 - b. Ensure that the **Autostart the instance at system startup** check box is deselected.

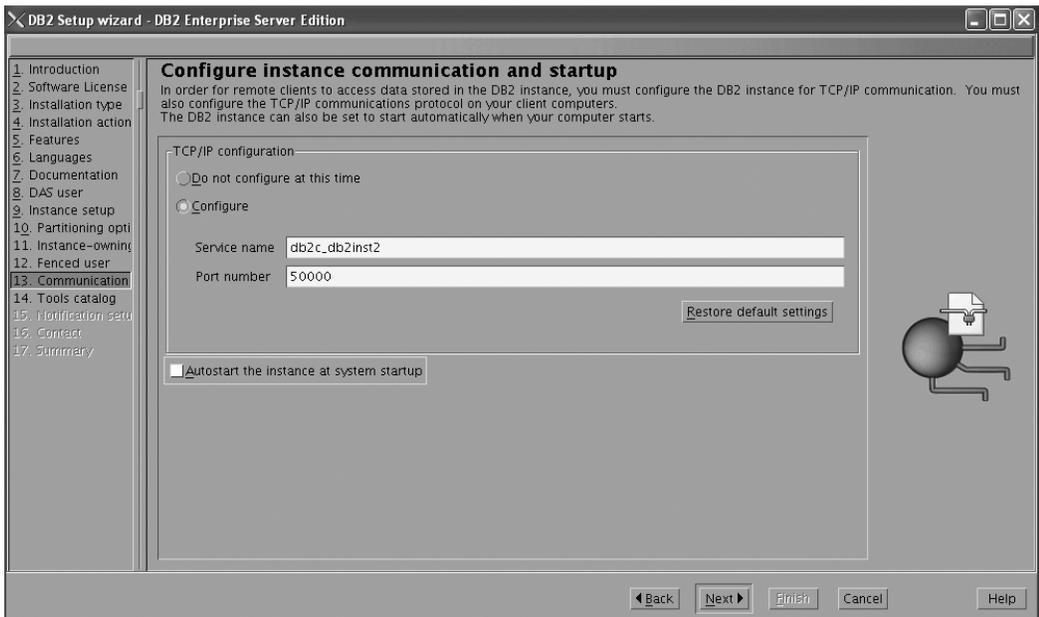


Figure 142. DB2 Setup wizard - Configure instance communication and startup page

- c. Click **Next**. The "Prepare the DB2 tools catalog" page opens.
23. On the "Prepare the DB2 tools catalog" page:

- a. Select the **Do not prepare the DB2 tools catalog** radio button.

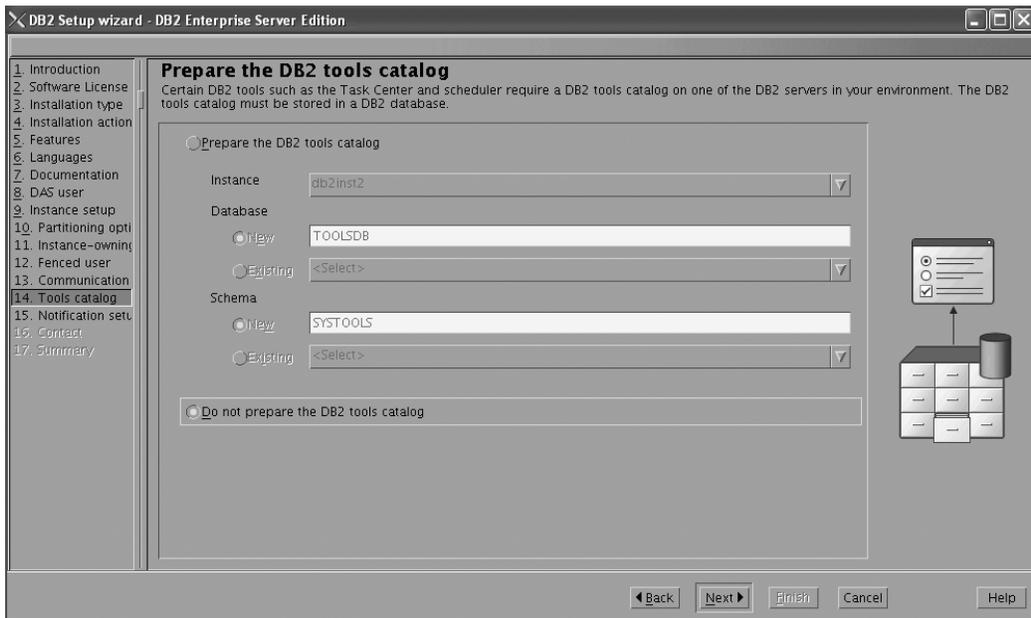


Figure 143. DB2 Setup wizard - Prepare the DB2 tools catalog page

- b. Click **Next**. The "Set up notifications" page opens.
24. On the "Set up notifications" page:
 - a. Select the **Do not set up your DB2 server to send notifications at this time** radio button.



Figure 144. DB2 Setup wizard - Set up notifications page

- b. Click **Next**. The "Start copying files and create response files" page opens.

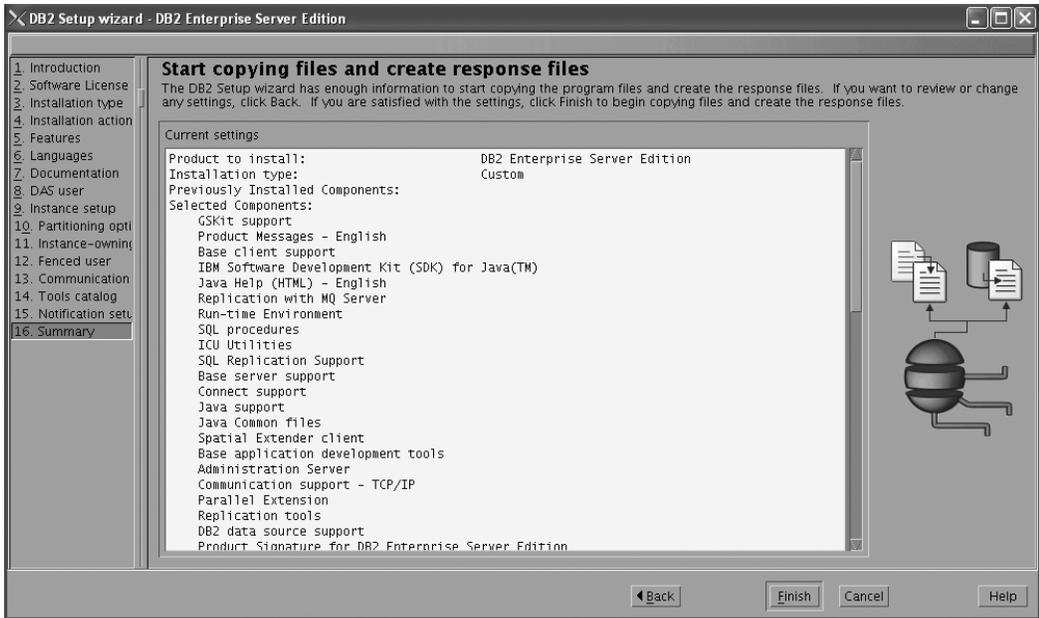


Figure 145. DB2 Setup wizard - Start copying files and create response files page

25. On the "Start copying files and create response files" page, click **Finish** to begin installing DB2 on your computer.

The "Installing DB2 Enterprise Server Edition" page opens.

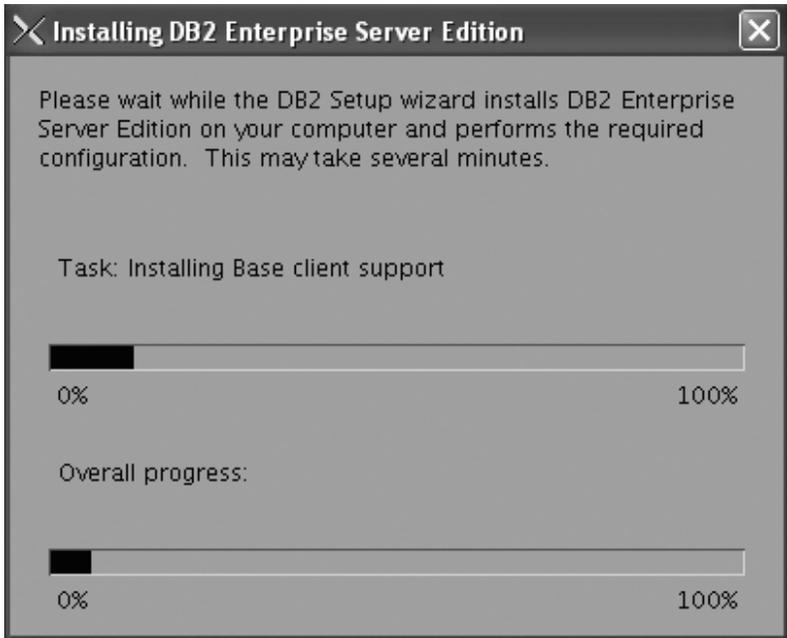


Figure 146. Installing DB2 Enterprise Server Edition page

When the installation completes, the "Setup Complete" page opens.

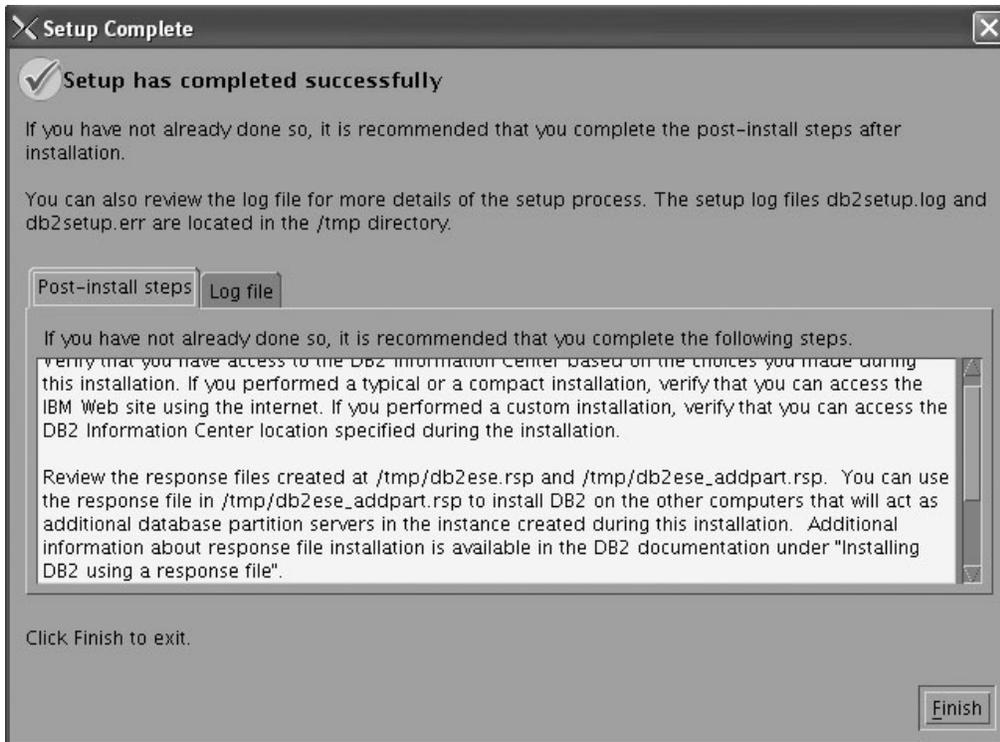


Figure 147. Setup Complete page

On the **Post-install steps** tab, note that the installation results in two response files being created in the /tmp directory: db2ese.rsp and db2ese_addpart.rsp. The response file db2ese_addpart.rsp is used to finish installing the partitioned database environment.

Click **Finish** to exit from the installation GUI.

After you finish using the DB2 Setup wizard to install DB2 on the instance owning computer, you need to verify port range availability, install DB2 on the remaining machines that you want to participate in the instance, create or modify a few files, and finally activate the license files that you downloaded before installing DB2.

1. Perform the steps described in "Verifying port range availability on participating computers (Linux and UNIX)".
2. Copy the db2ese_addpart.rsp file to the same directory as the setup.exe file on the second computer that you want to participate in the partitioned database environment. You can use FTP to accomplish this task, or any other tool that permits you to transfer files. Repeat this step for every computer that you want to participate in the environment.
3. Run the response file on the second computer using the ./db2setup -r command as described in the topic "Installing database partition servers on participating computers using a response file (Linux and UNIX)". Repeat this step for every computer that you want to participate in the environment.
4. Update the db2nodes.cfg file in the InstanceHome/sql/lib/ directory. For details, see the topic "Updating the node configuration file (Linux and UNIX)"
5. Create the .rhosts file. See the topic "Enabling the execution of remote commands (Linux and UNIX)" for details.
6. Update the /etc/services file. For more information, see the topic "Enabling communications between database partition servers (Linux and UNIX)".

7. Activate the license files on every computer that you want to participate in the partitioned database environment. See the topic "Registering a DB2 product or feature license key using the db2licm command".

After DB2 Enterprise 9 is installed, see the topic on configuring DB2 to be Common Criteria compliant in the *IBM DB2 Common Criteria Certification: Administration and User Documentation* book.

Installing DB2 Enterprise 9 on SuSE Linux Enterprise Server 9 for a multipartition Common Criteria compliant installation

This task provides detailed instructions on installing DB2 Enterprise 9 on SuSE Linux Enterprise Server 9 for a Common Criteria compliant installation.

Prerequisites:

- The prerequisites listed in "Installation requirements for DB2 clients and servers (Linux)" must be met.
- The prerequisites listed in "Verifying that NFS is running (Linux and UNIX)" must be met.
- The prerequisites listed in "Creating a file system for a partitioned DB2 server (Linux)" must be met.
- The computer on which you install DB2 must be physically protected from untrusted users.
- SuSE Linux Enterprise Server 9 must be installed on the computer.
- The instructions that follow assume that the rsh-server package has been installed as part of the SuSE Linux Enterprise Server 9 installation. See Installation requirements for DB2 clients and servers (Linux) for more information.
- You must have the file v9fp1_linuxx64_ese.tar.gz downloaded to the directory of your choice. You must download this file to the same directory on all computers that will participate in the environment. This file is available from the DB2 9 download site (<http://ibm.com/software/data/db2/udb/support/downloadv9.html>).
- You must have downloaded the applicable activation files from the Passport Advantage site to the same directory on all participating computers. You require these files to activate Enterprise 9 after installation. The instance owner must have read/write authority on this directory.
 - One of the following:
 - DB2_Enterp_Svr_Auth_User_Activation.zip. Required to activate DB2 Enterprise 9 if you purchase DB2 Enterprise 9 on a per user basis.
 - DB2_Enterprise_Svr_Ed_CPU_Activation.zip. Required to activate DB2 Enterprise 9 if you purchase DB2 Enterprise 9 on a per CPU basis.
 - DB2_Database_Partitioning_Activation.zip. Required to activate the Database Partitioning Feature (DPF)
 - DB2_Advanced_Access_Cntrl_Activation.zip. Required to activate label-based access control (LBAC).
- The user names to be used for the following:
 - The DB2 instance owner
 - The DB2 Administration Server
 - The fenced user

If you do not have these user names, obtain them from your system administrator. For more information about these users, see "DB2 users and groups (Linux and UNIX)" on page 26. For information about creating these users, see "Creating group and user IDs for a DB2 database installation (Linux and UNIX)" on page 30.

The topic "Installing DB2 servers (Linux and UNIX)" provides an overview of installing on Linux and UNIX-based platforms.

Procedure:

Use the following steps to install DB2 Enterprise 9 on SuSE Linux Enterprise Server 9 for a Common Criteria compliant environment.

1. Log on to the system as a user with root authority.
2. Decompress the product file:
`gzip -d v9fp1_linuxx64_ese.tar.gz`
3. Untar the product file:
`tar xvf v9fp1_linuxx64_ese.tar`
4. Repeat steps 1, 2, and 3 for every computer that will participate in the partitioned database environment.
5. Change directory on the computer that you want to use as the instance owner:
`cd $HOME/ese/disk1`
6. On the computer that you want to use as the instance owner, issue the `./db2setup` command to open the "IBM DB2 Setup Launchpad" at the "Welcome" page:



Figure 148. Welcome page of the DB2 Setup Launchpad

7. On the "Welcome" page of the "IBM DB2 Setup Launchpad", click **Install a Product** to open the "Install a Product" page.

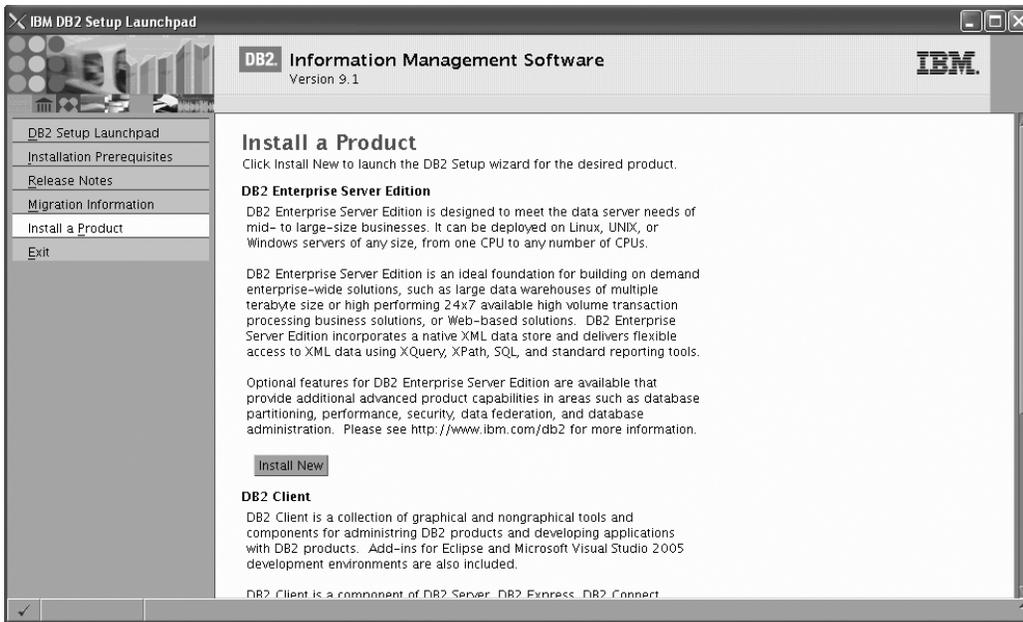


Figure 149. Install a Product page of the DB2 Setup Launchpad

8. On the "Install a Product" page of the "IBM DB2 Setup Launchpad", click the **Install New** button for **DB2 Enterprise Server Edition**. The "DB2 Setup wizard" opens.

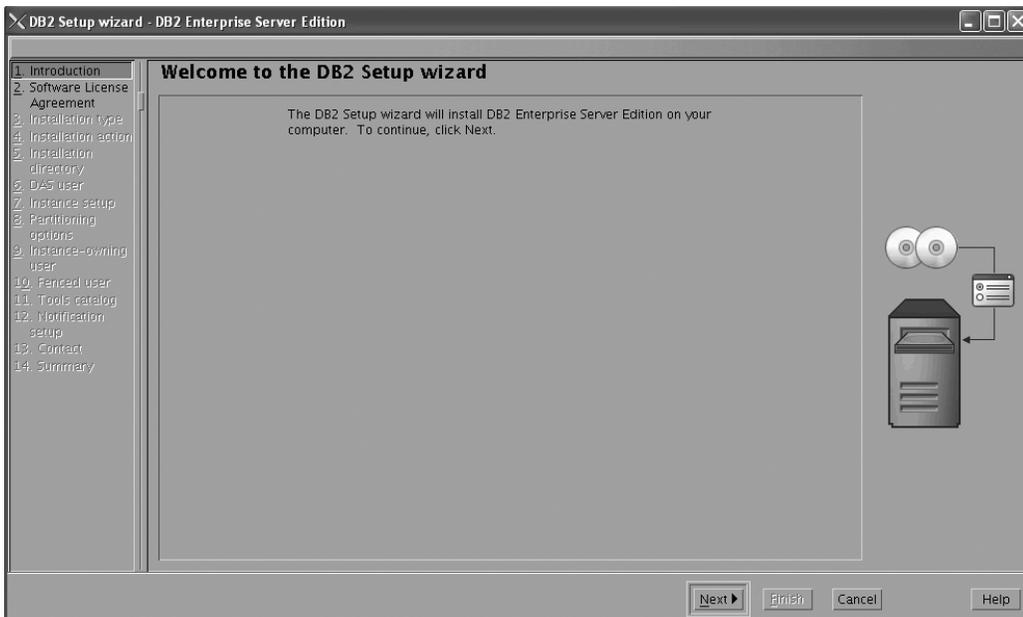


Figure 150. DB2 Setup wizard

9. Click **Next**. The "Software License Agreement" page opens.
10. On the "License Agreement" page:
 - a. After reviewing and agreeing to the license text, select the **Accept** radio button:

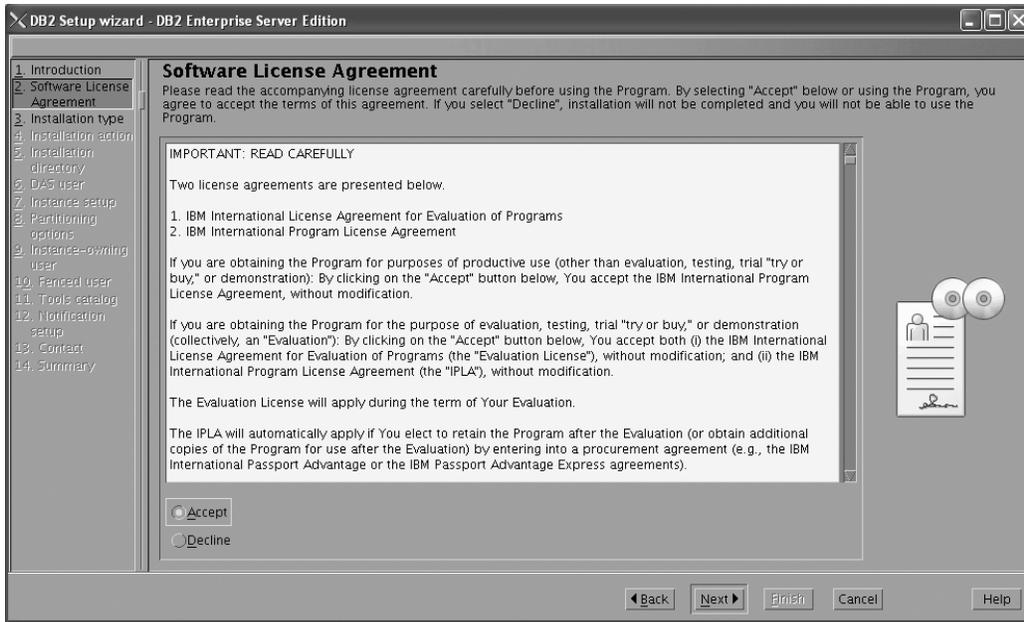


Figure 151. DB2 Setup wizard - Software Licence Agreement page

- b. Click **Next**. The "Select the installation type" page opens.
- 11. On the "Select the installation type" page:
 - a. Select the **Custom** radio button:

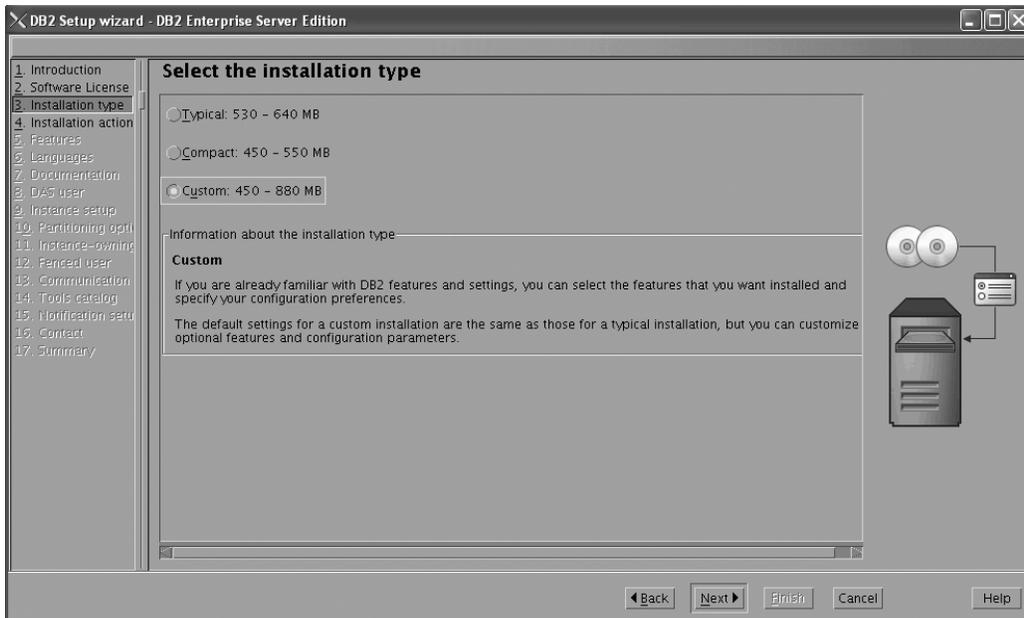


Figure 152. DB2 Setup wizard - Select the installation type page

- b. Click **Next**. The "Select the installation, response file creation, or both" page opens.
- 12. On the "Select the installation, response file creation, or both" page:
 - a. Select the **Install DB2 Enterprise Server Edition on this computer and save my settings in a response file** radio button.

- b. Use the default value listed in the **Response file name** field. Subsequent installs for the partitioned database environment are performed using the response file db2ese.rsp in the /root directory. Using the response file guarantees a consistent setup of the database environment on all participating computers.

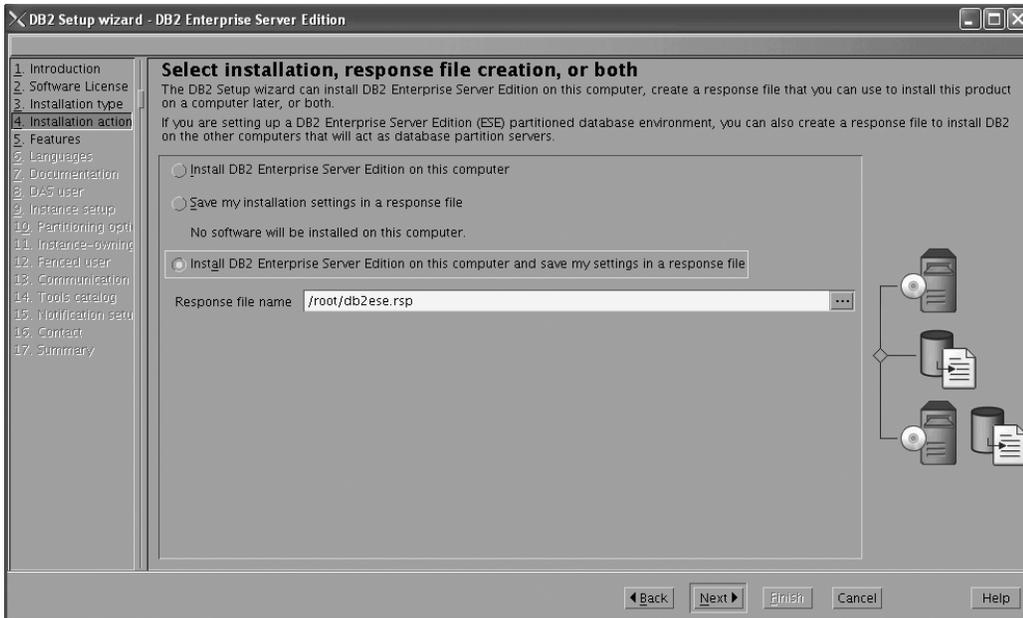


Figure 153. DB2 Setup wizard - Select the installation, response file creation, or both page

- c. Click **Next**. The "Select the features to install" page opens.

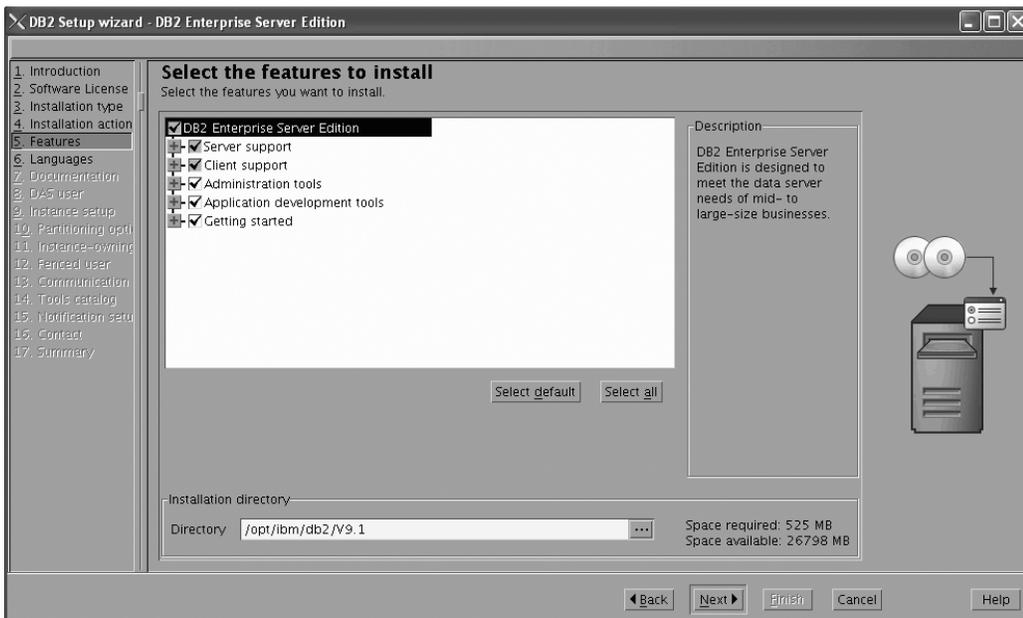


Figure 154. DB2 Setup wizard - Select the features to install page

13. On the "Select the features to install" page:
 - a. Open the + beside **Client support**.

- b. Select the **DB2 LDAP support** feature to remove the check mark.

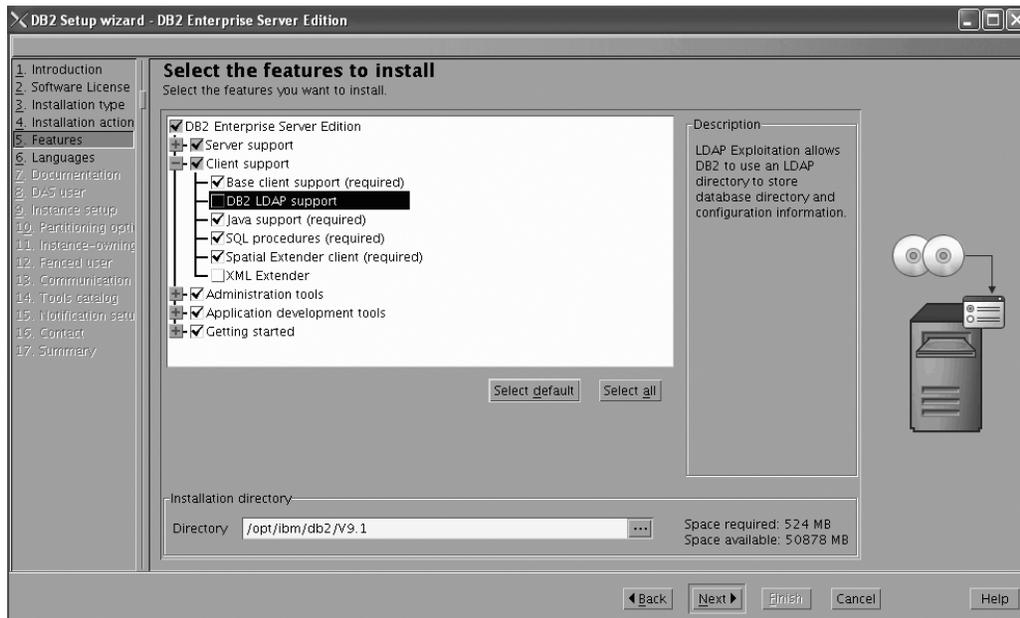


Figure 155. DB2 Setup wizard - Select the features to install page; DB2 LDAP support feature deselected for install

- c. Open the + beside **Administration tools**.
- d. Ensure that the following features under **Administration tools** are deselected for installation:
- **Configuration Assistant**

Note: The **Configuration Assistant** feature must be deselected after the **Control Center** feature.

- **Control Center**
- **DB2 Instance Setup wizard**
- **DB2 Web Tools**

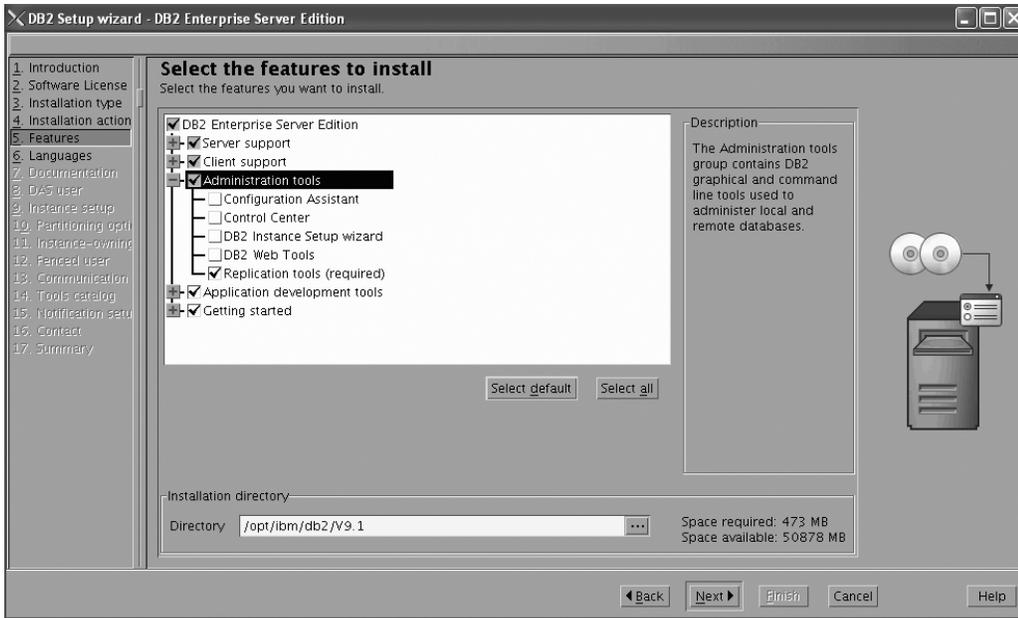


Figure 156. DB2 Setup wizard - Select the features to install page; Administration tools features deselected for install

- e. Open the + beside **Application development tools**.
- f. Ensure that the **ADT sample programs** feature and the **Spatial Extender samples** feature are deselected for installation.

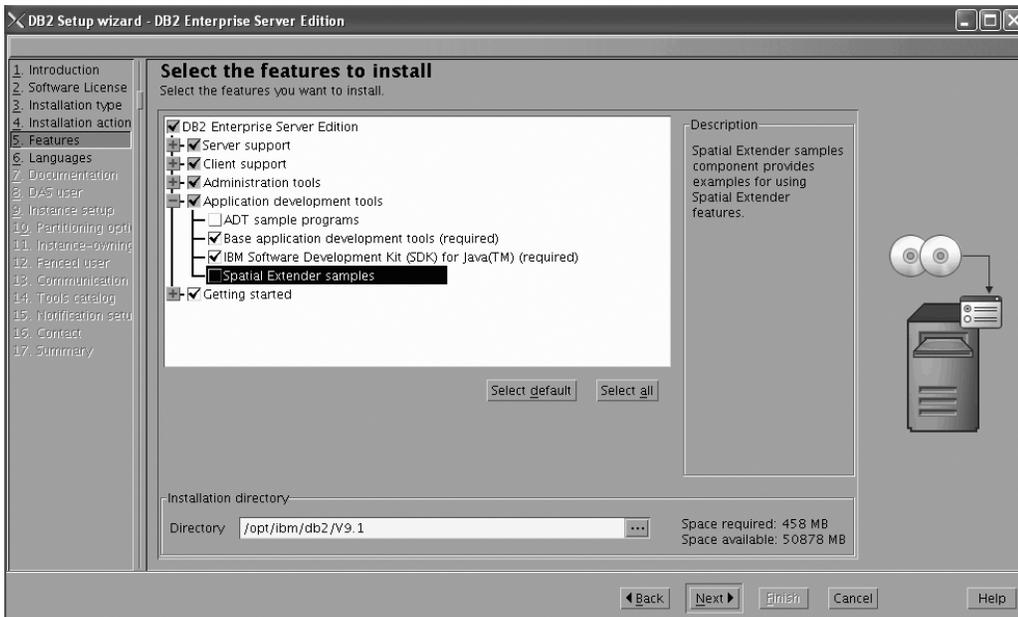


Figure 157. DB2 Setup wizard - Select the features to install page; Application development tools features deselected for installation

- g. Open the + beside **Getting started**.
- h. Ensure that the **First Steps** feature and the **XML Extender samples** feature are deselected for installation.

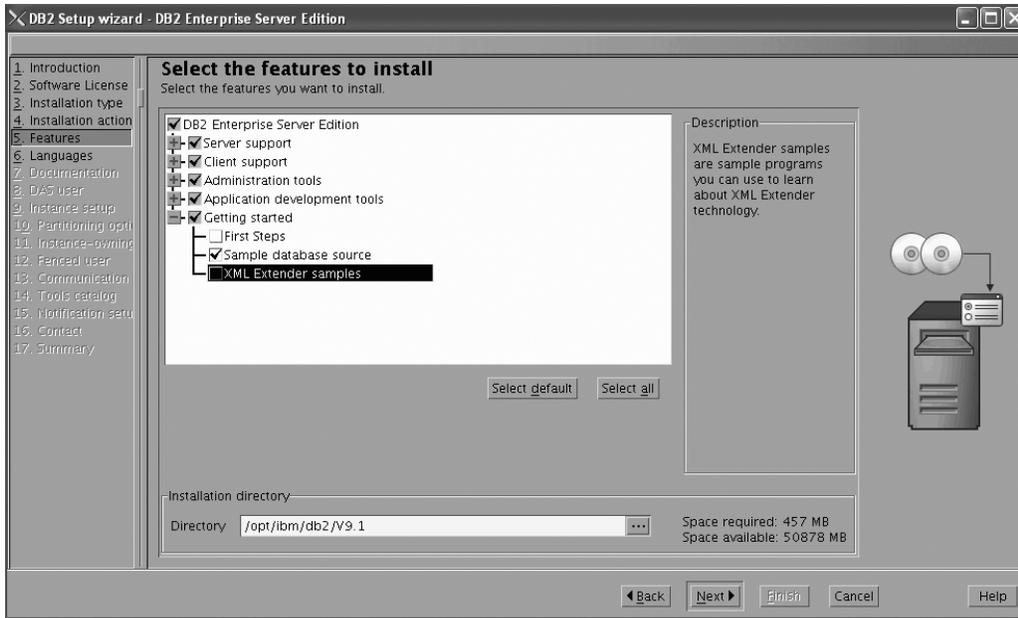


Figure 158. DB2 Setup wizard - Select the features to install page; Getting started features deselected for installation

- i. Click **Next**. The "Select the languages to install" page opens.
14. On the "Select the languages to install" page, English is the only language support that is installed by default.

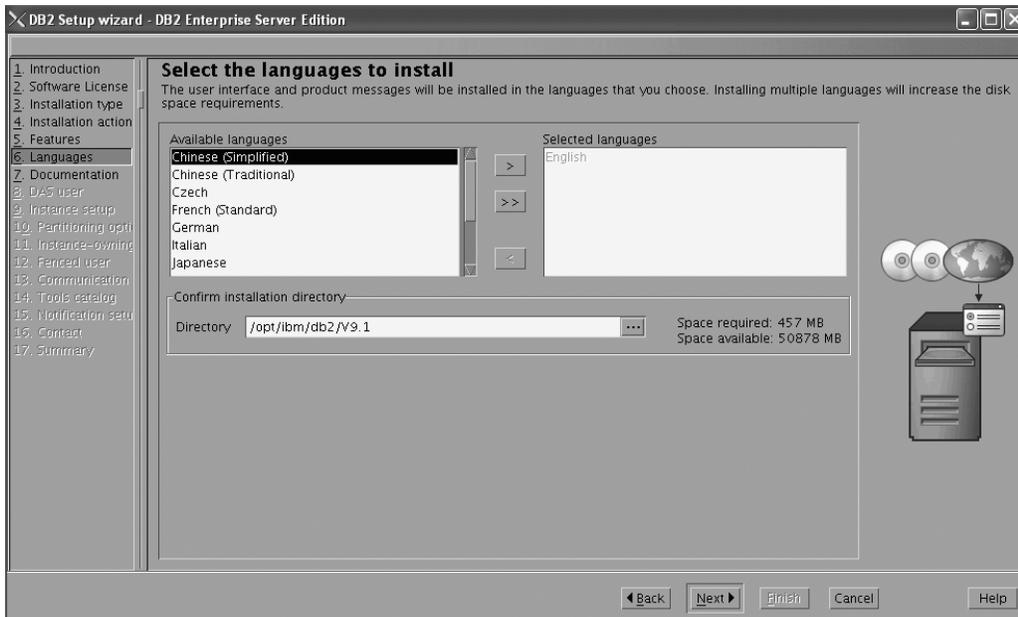


Figure 159. DB2 Setup wizard - Select the languages to install page; English language support selected for installation

- 15. Click **Next**. The "Specify the location of the DB2 Information Center" page opens.
- 16. On the "Specify the location of the DB2 Information Center" page:
 - a. Ensure that the **On the IBM Web site** radio button is selected.

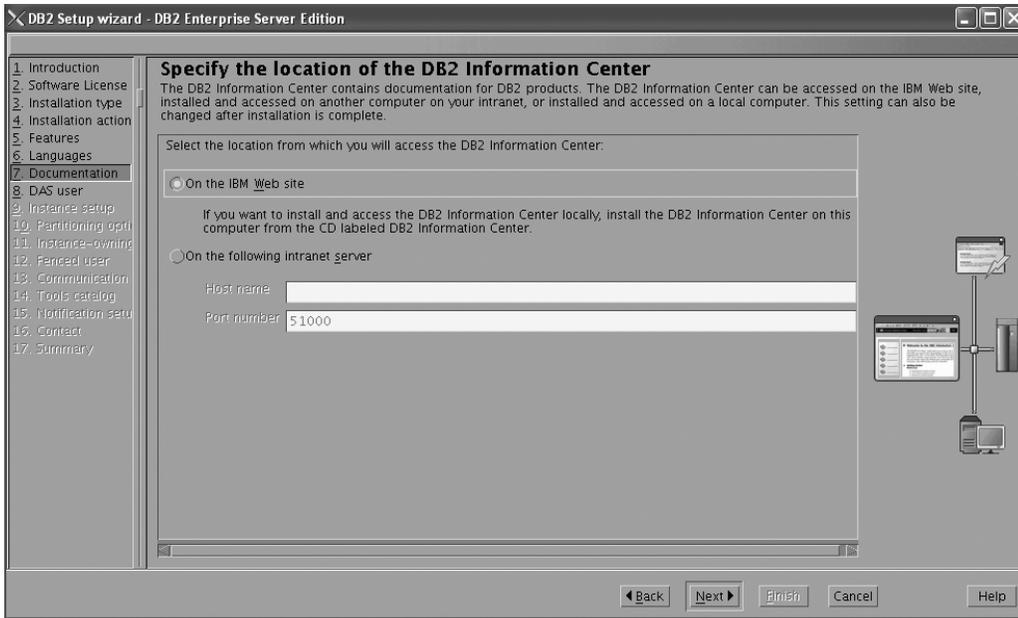


Figure 160. DB2 Setup wizard - Specify the location of the DB2 Information Center; On the IBM Web site option selected

- b. Click **Next**. The "Set user information for the DB2 Administration Server" page opens.
17. On the "Set user information for the DB2 Administration Server" page:
 - a. Select the **Existing user** radio button.
 - b. Use the ... button to select the user previously defined for the DB2 Administration Server.

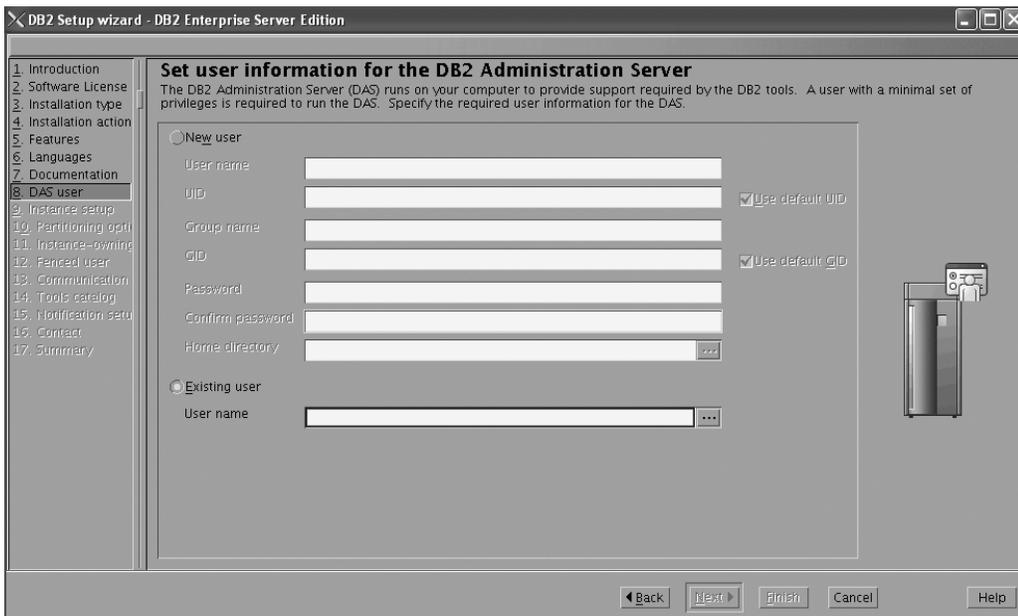


Figure 161. DB2 Setup wizard - Set user information for the DB2 Administration Server page

- c. Click **Next**. The "Set up a DB2 instance" page opens.
18. On the "Set up a DB2 instance" page:

- a. Ensure that the **Create a DB2 instance** radio button is selected.

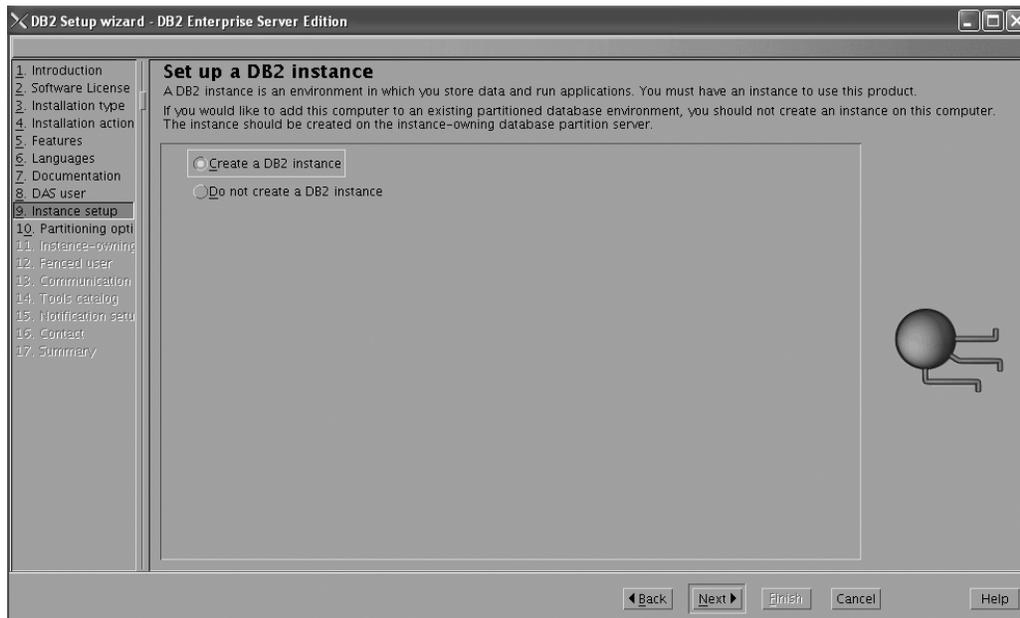


Figure 162. DB2 Setup wizard - Set up a DB2 instance page; Create a DB2 instance option selected

- b. Click **Next**. The "Set up partitioning options for the DB2 instance" page opens.
19. On the "Set up partitioning options for the DB2 instance" page:
 - a. Select the **Multiple partition instance** radio button.
 - b. Type 2 for the **Maximum logical partitions** field.

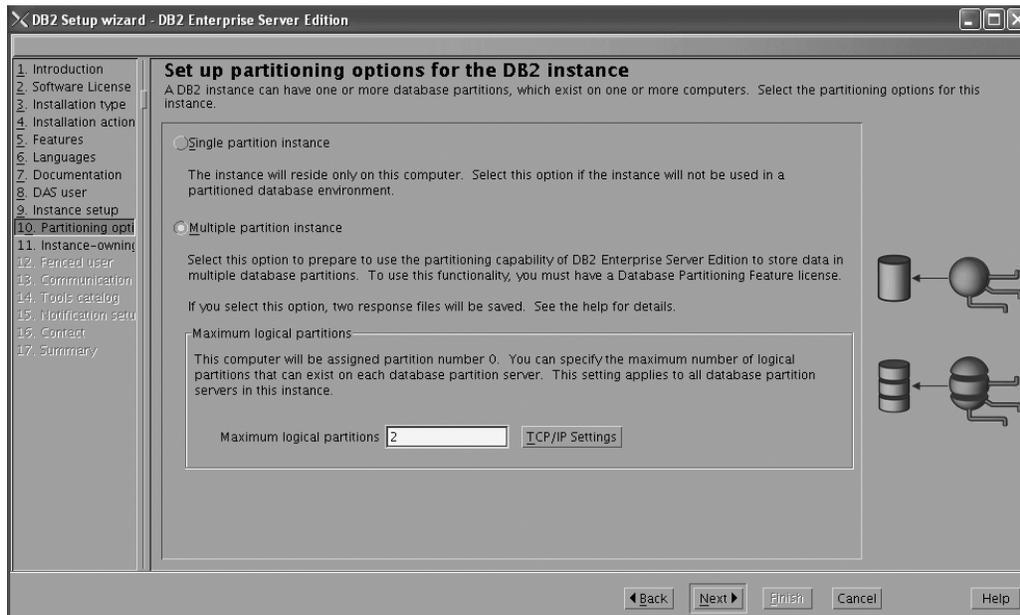


Figure 163. DB2 Setup wizard - Set up partitioning options for the DB2 instance page

Note: For the Common Criteria certification, an SMP configuration of two logical partitions on two computers is demonstrated. Depending on

your requirements, it is possible to install one logical partition per computer, or more than two logical partitions per computer. Because a response file is used to install DB2 Enterprise Server Edition on all subsequent computers, the environment will be consistent across all computers that participate in the partitioned database environment.

- c. Click **Next**. The "Set user information for the DB2 instance owner" page opens.
20. On the "Set user information for the DB2 instance owner" page:
- a. Select the **Existing user** radio button.
 - b. Use the ... button to select the user previously defined for the DB2 instance owner.

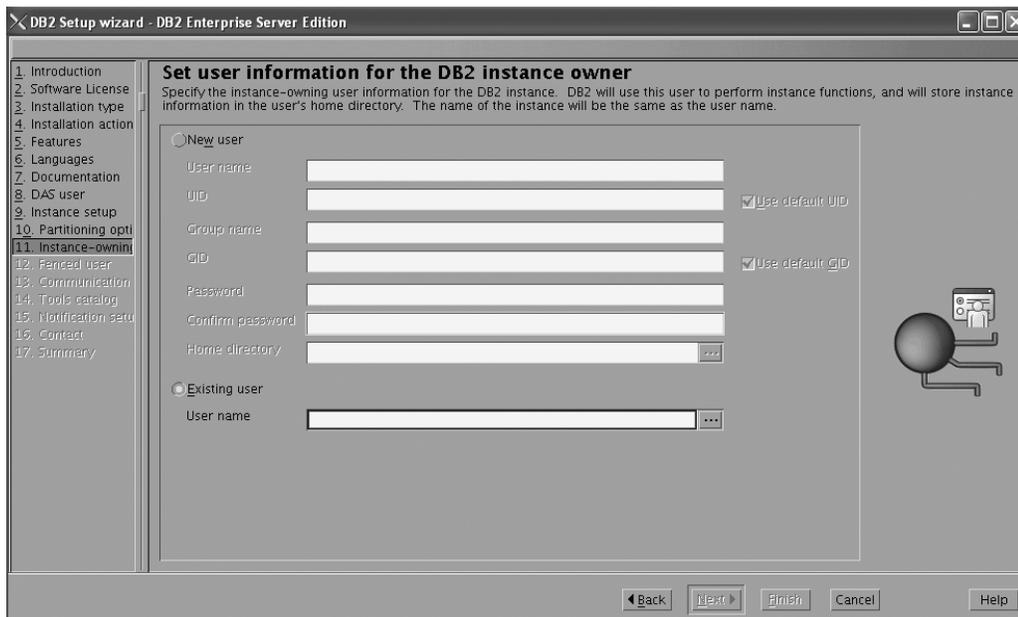


Figure 164. DB2 Setup wizard - Set user information for the DB2 instance owner page

- c. Click **Next**. The "Set user information for the fenced user" page opens.
21. On the "Set user information for the fenced user" page:
- a. Select the **Existing user** radio button.
 - b. Use the ... button to select the user previously defined for the fenced user.

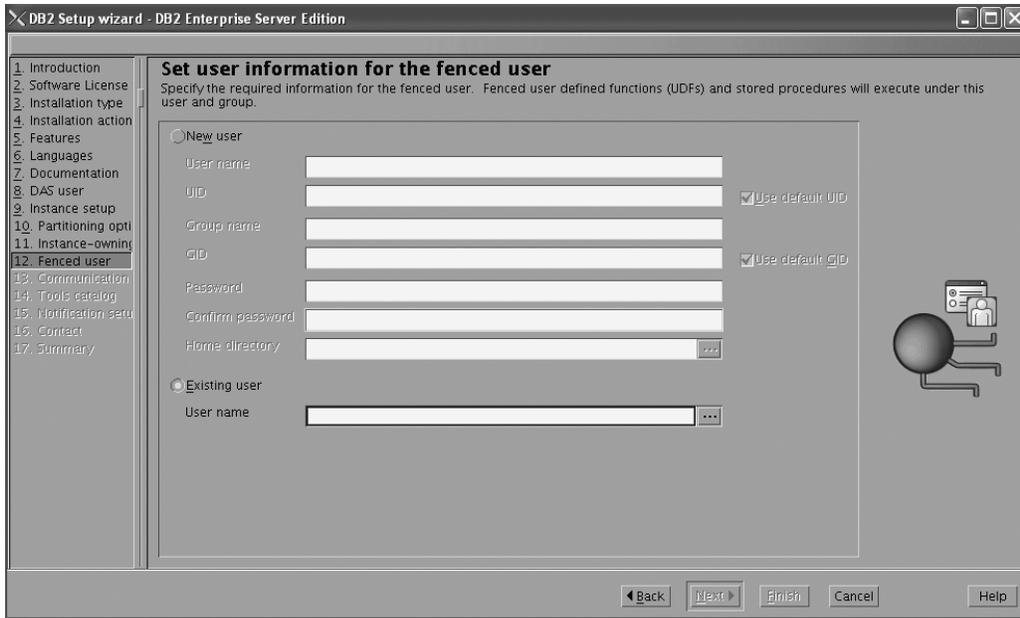


Figure 165. DB2 Setup wizard - Set user information for the fenced user page

- c. Click **Next**. The "Configure instance communication and startup" page opens.
- 22. On the "Configure instance communication and startup" page:
 - a. Select the **Configure** radio button.
 - b. Ensure that the **Autostart the instance at system startup** check box is deselected.

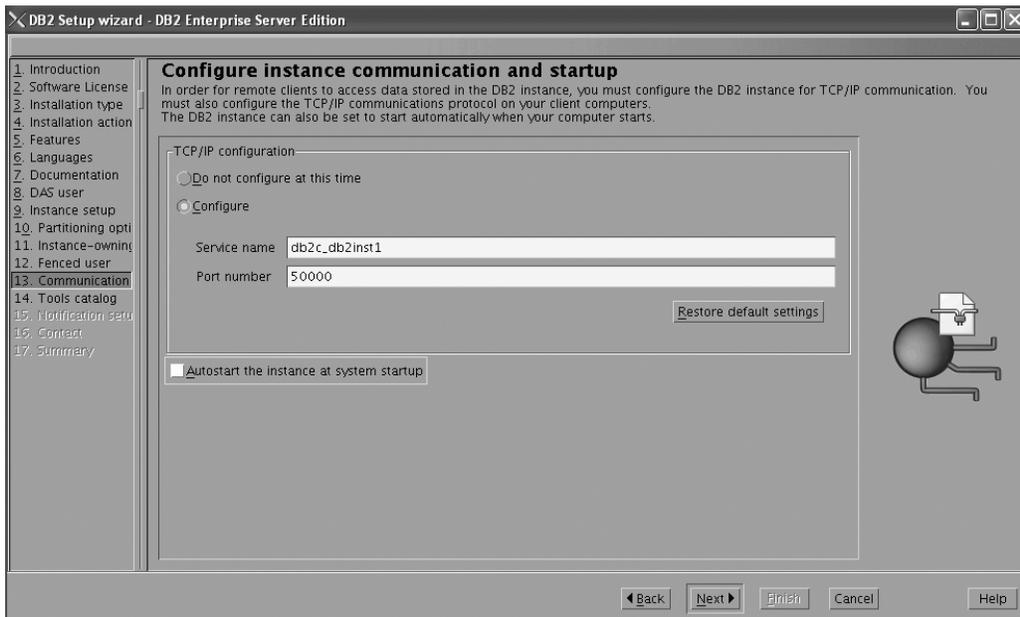


Figure 166. DB2 Setup wizard - Configure instance communication and startup page

- c. Click **Next**. The "Prepare the DB2 tools catalog" page opens.
- 23. On the "Prepare the DB2 tools catalog" page:

- a. Select the **Do not prepare the DB2 tools catalog** radio button.

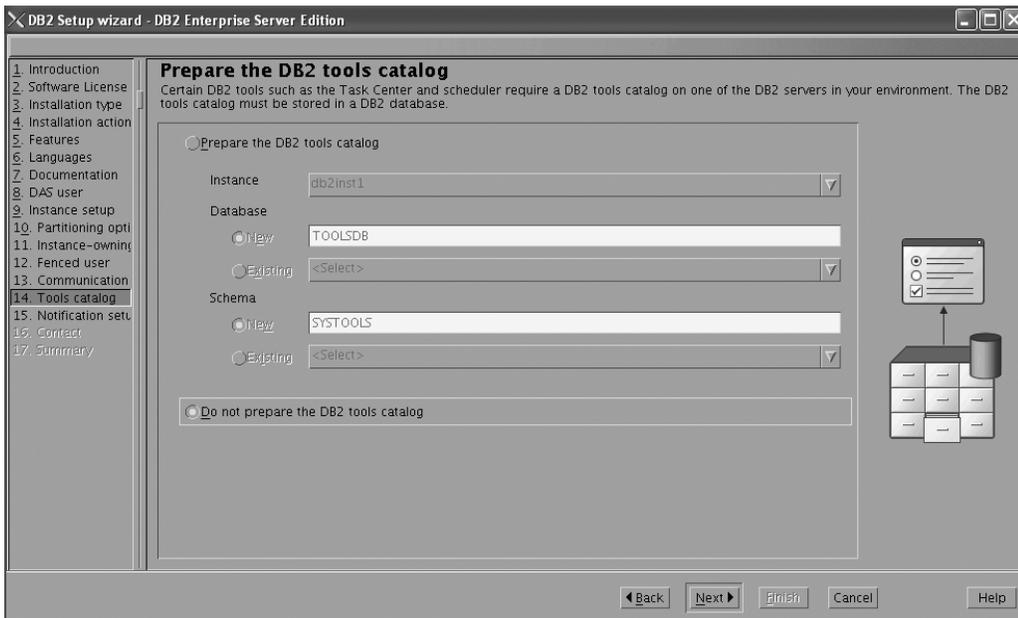


Figure 167. DB2 Setup wizard - Prepare the DB2 tools catalog page

- b. Click **Next**. The "Set up notifications" page opens.
24. On the "Set up notifications" page:
 - a. Select the **Do not set up your DB2 server to send notifications at this time** radio button.

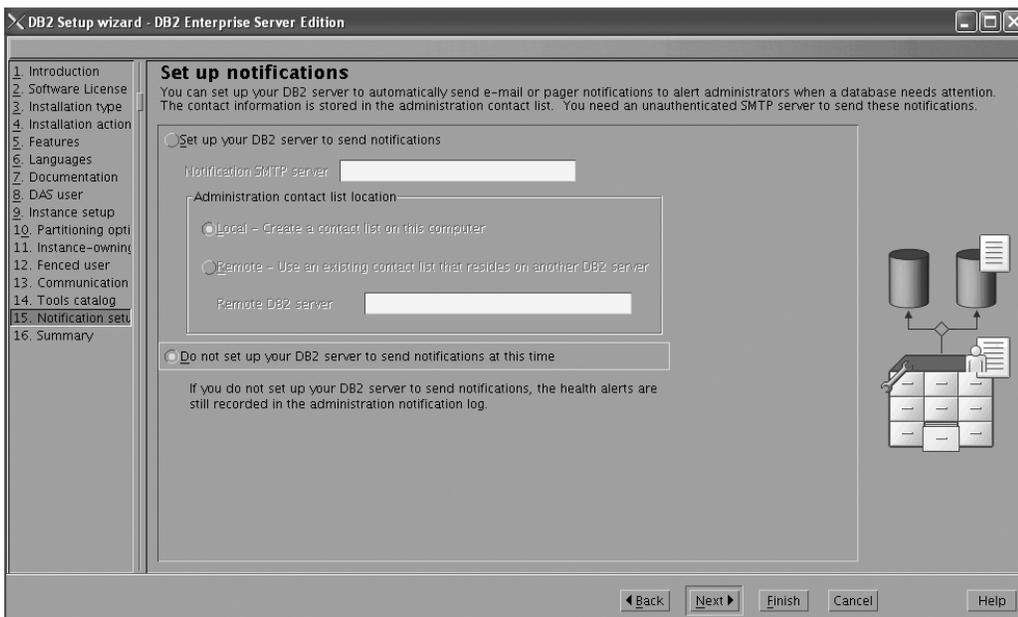


Figure 168. DB2 Setup wizard - Set up notifications page

- b. Click **Next**. The "Start copying files and create response files" page opens.

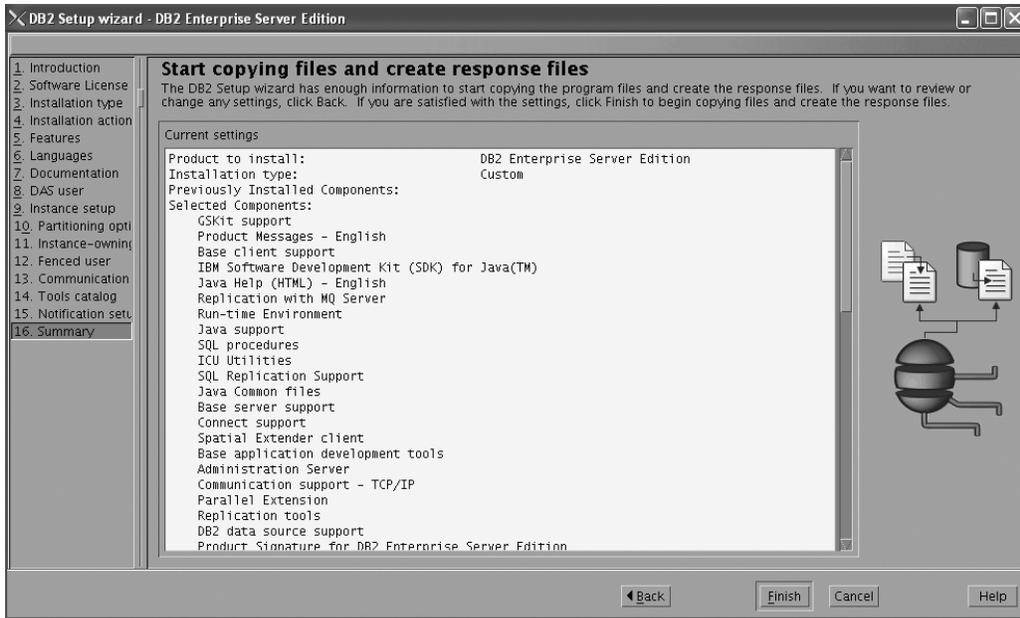


Figure 169. DB2 Setup wizard - Start copying files and create response files page

25. On the "Start copying files and create response files" page, click **Finish** to begin installing DB2 on your computer.

The "Installing DB2 Enterprise Server Edition" page opens.

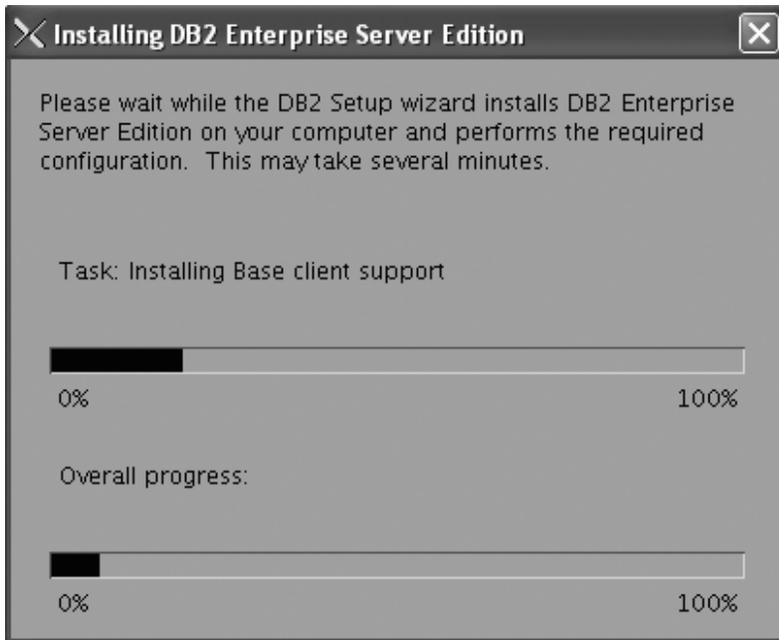


Figure 170. Installing DB2 Enterprise Server Edition page

When the installation completes, the "Setup Complete" page opens.

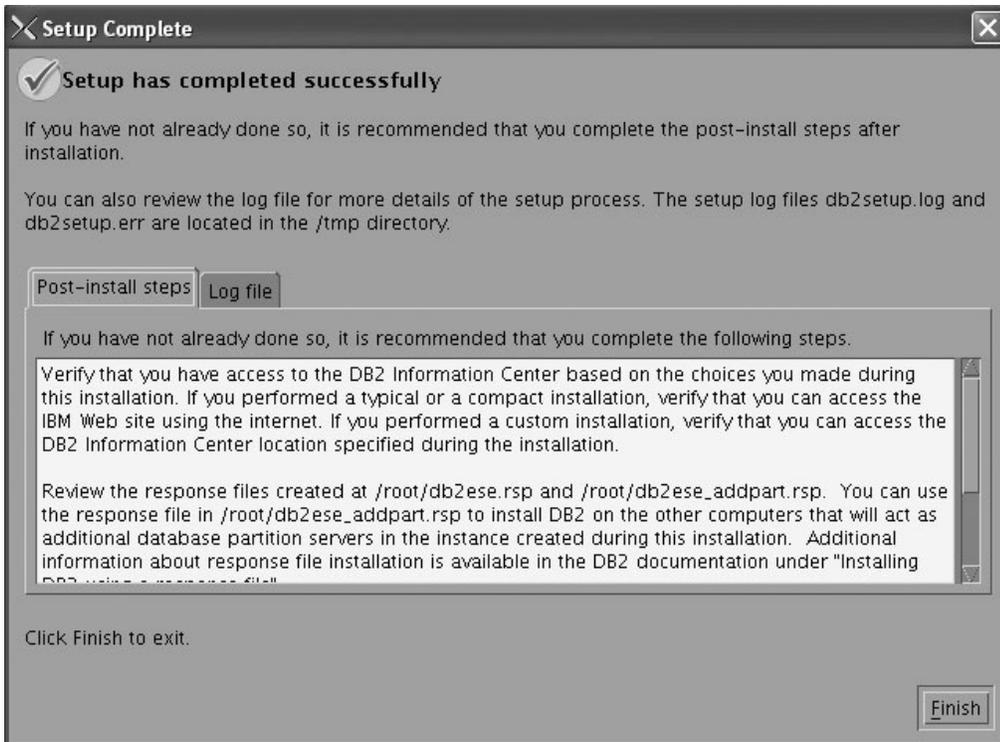


Figure 171. Setup Complete page

On the **Post-install steps** tab, note that the installation results in two response files being created in the /root directory: db2ese.rsp and db2ese_addpart.rsp. The response file db2ese_addpart.rsp is used to finish installing the partitioned database environment.

Click **Finish** to exit from the installation GUI.

After you finish using the DB2 Setup wizard to install DB2 on the instance owning computer, you need to verify port range availability, install DB2 on the remaining machines that you want to participate in the instance, create or modify a few files, and finally activate the license files that you downloaded before installing DB2.

1. Perform the steps described in "Verifying port range availability on participating computers (Linux and UNIX)".
2. Copy the db2ese_addpart.rsp file to the same directory as the setup.exe file on the second computer that you want to participate in the partitioned database environment. You can use FTP to accomplish this task, or any other tool that permits you to transfer files. Repeat this step for every computer that you want to participate in the environment.
3. Run the response file on the second computer using the ./db2setup -r command as described in the topic "Installing database partition servers on participating computers using a response file (Linux and UNIX)". Repeat this step for every computer that you want to participate in the environment.
4. Update the db2nodes.cfg file in the InstanceHome/sql/lib/ directory. For details, see the topic "Updating the node configuration file (Linux and UNIX)".
5. Create the .rhosts file. See the topic "Enabling the execution of remote commands (Linux and UNIX)" for details.
6. Update the /etc/services file. For more information, see the topic "Enabling communications between database partition servers (Linux and UNIX)".

7. Activate the license files on every computer that you want to participate in the partitioned database environment. See the topic "Registering a DB2 product or feature license key using the db2licm command".

After DB2 Enterprise 9 is installed, see the topic on configuring DB2 to be Common Criteria compliant in the *IBM DB2 Common Criteria Certification: Administration and User Documentation* book.

Installing DB2 Enterprise 9 on Solaris 9 for a multipartition Common Criteria compliant installation

This task provides detailed instructions on installing DB2 Enterprise 9 on Solaris 9 for a Common Criteria compliant installation.

Prerequisites:

- The prerequisites listed in "Installation requirements for DB2 clients and servers (Solaris Operating System)" must be met.
- The prerequisites listed in "Verifying that NFS is running (Linux and UNIX)" must be met.
- The prerequisites listed in "Creating a file system for a partitioned DB2 server (Solaris Operating Environment)" must be met.
- The computer on which you install DB2 must be physically protected from untrusted users.
- Solaris 9 must be installed on the computer.
- You must have the file `v9fp1_sunos_ese.tar.gz` downloaded to the directory of your choice. You must download this file to the same directory on all computers that will participate in the environment. This file is available from the DB2 9 download site (<http://ibm.com/software/data/db2/udb/support/downloadv9.html>).
- You must have downloaded the applicable activation files from the Passport Advantage site to the same directory on all participating computers. You require these files to activate Enterprise 9 after installation. The instance owner must have read/write authority on this directory.
 - One of the following:
 - `DB2_Enterpr_Svr_Auth_User_Activation.zip`. Required to activate DB2 Enterprise 9 if you purchase DB2 Enterprise 9 on a per user basis.
 - `DB2_Enterprise_Svr_Ed_CPU_Activation.zip`. Required to activate DB2 Enterprise 9 if you purchase DB2 Enterprise 9 on a per CPU basis.
 - `DB2_Database_Partitioning_Activation.zip`. Required to activate the Database Partitioning Feature (DPF)
 - `DB2_Advanced_Access_Cntrl_Activation.zip`. Required to activate label-based access control (LBAC).
- The user names to be used for the following:
 - The DB2 instance owner
 - The DB2 Administration Server
 - The fenced user

If you do not have these user names, obtain them from your system administrator. For more information about these users, see "DB2 users and groups (Linux and UNIX)" on page 26. For information about creating these users, see "Creating group and user IDs for a DB2 database installation (Linux and UNIX)" on page 30.

The topic "Installing DB2 servers (Linux and UNIX)" provides an overview of installing on Linux and UNIX-based platforms.

Procedure:

Use the following steps to install DB2 Enterprise 9 on Solaris 9 for a Common Criteria compliant environment.

1. Log on to the system as a user with root authority.
2. Decompress the product file:
`gzip -d v9fp1_sunos_ese.tar.gz`
3. Untar the product file:
`tar xvf v9fp1_sunos_ese.tar`
4. Repeat steps 1, 2, and 3 for every computer that will participate in the partitioned database environment.
5. Change directory on the computer that you want to use as the instance owner:
`cd $HOME/ese/disk1`
6. On the computer that you want to use as the instance owner, issue the `./db2setup` command to open the "IBM DB2 Setup Launchpad" at the "Welcome" page:

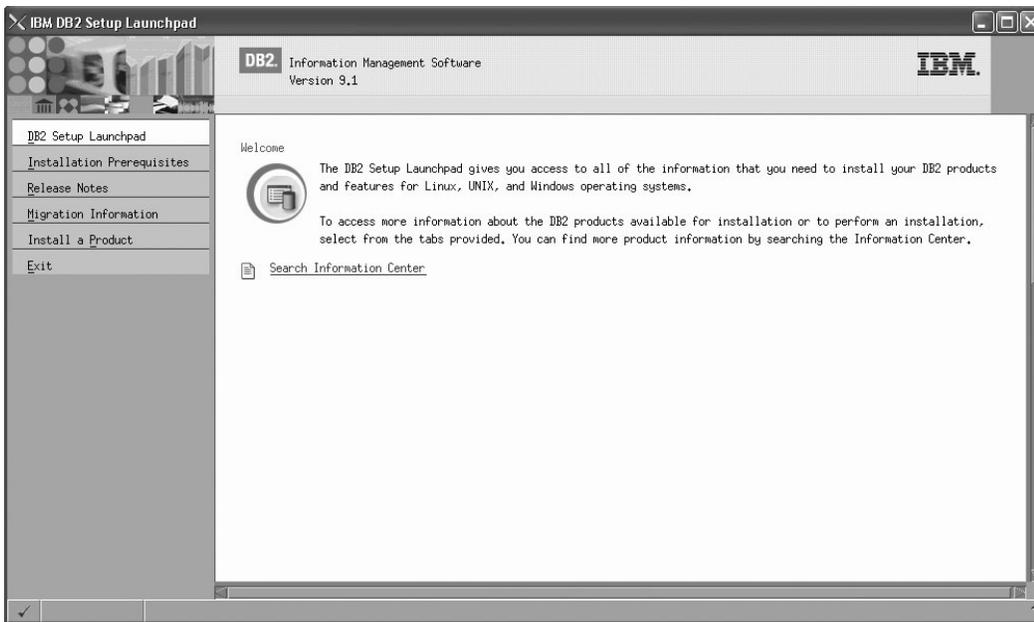


Figure 172. Welcome page of the DB2 Setup Launchpad

7. On the "Welcome" page of the "IBM DB2 Setup Launchpad", click **Install a Product** to open the "Install a Product" page.

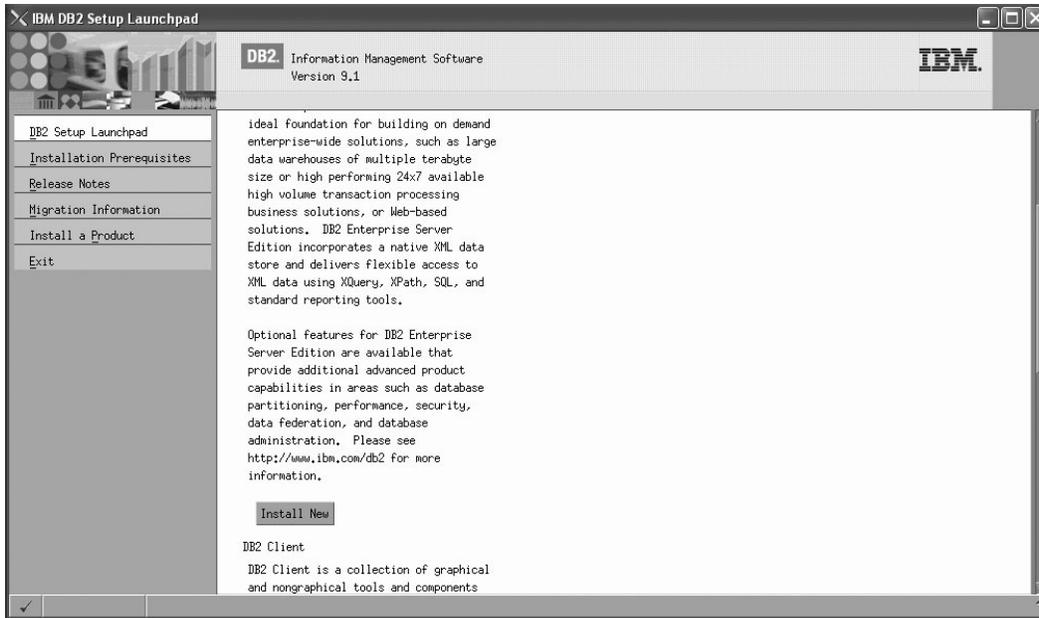


Figure 173. Install a Product page of the DB2 Setup Launchpad

8. On the "Install a Product" page of the "IBM DB2 Setup Launchpad", click the **Install New** button for **DB2 Enterprise Server Edition**. The "DB2 Setup wizard" opens.

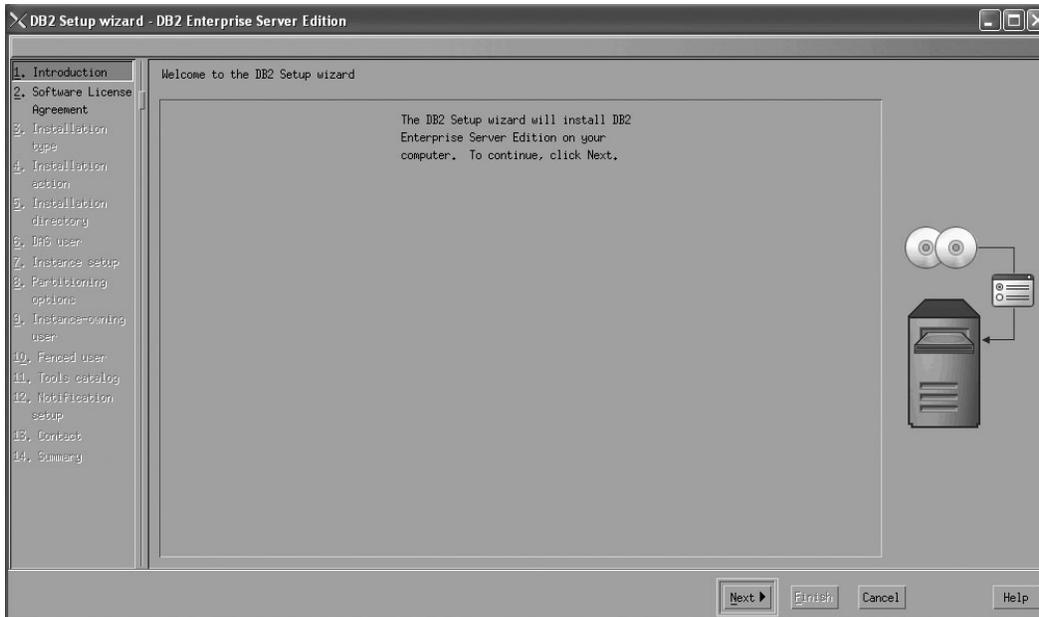


Figure 174. DB2 Setup wizard

9. Click **Next**. The "Software License Agreement" page opens.
10. On the "License Agreement" page:
 - a. After reviewing and agreeing to the license text, select the **Accept** radio button:

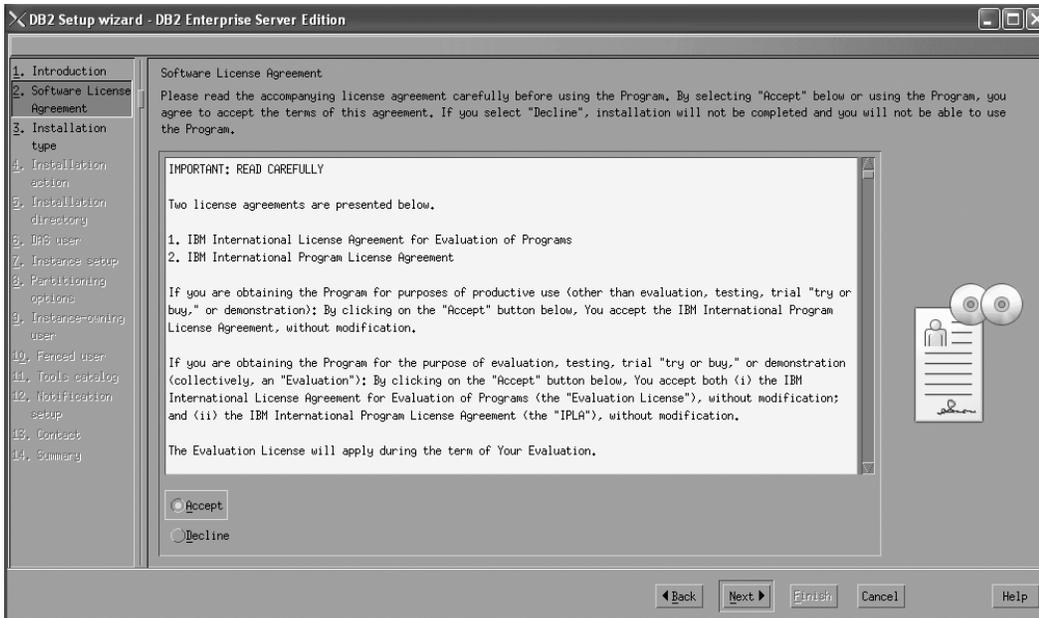


Figure 175. DB2 Setup wizard - Software Licence Agreement page

- b. Click **Next**. The "Select the installation type" page opens.
11. On the "Select the installation type" page:
 - a. Select the **Custom** radio button:

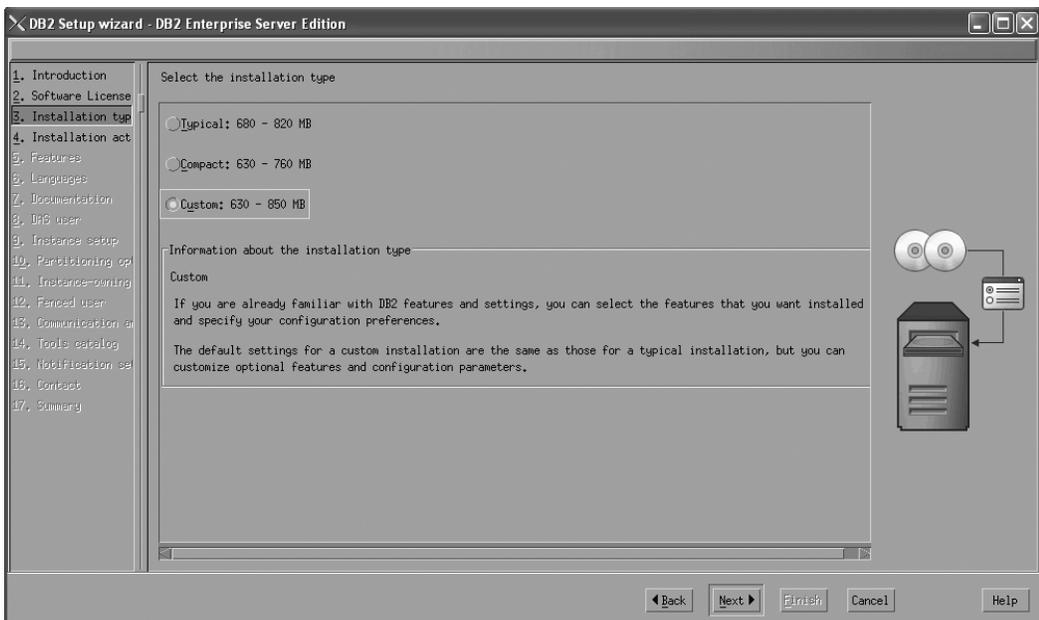


Figure 176. DB2 Setup wizard - Select the installation type page

- b. Click **Next**. The "Select the installation, response file creation, or both" page opens.
12. On the "Select the installation, response file creation, or both" page:
 - a. Select the **Install DB2 Enterprise Server Edition on this computer and save my settings in a response file** radio button.

- b. Use the default value listed in the **Response file name** field. Subsequent installs for the partitioned database environment are performed using the response file db2ese.rsp in the /tmp directory. Using the response file guarantees a consistent setup of the database environment on all participating computers.

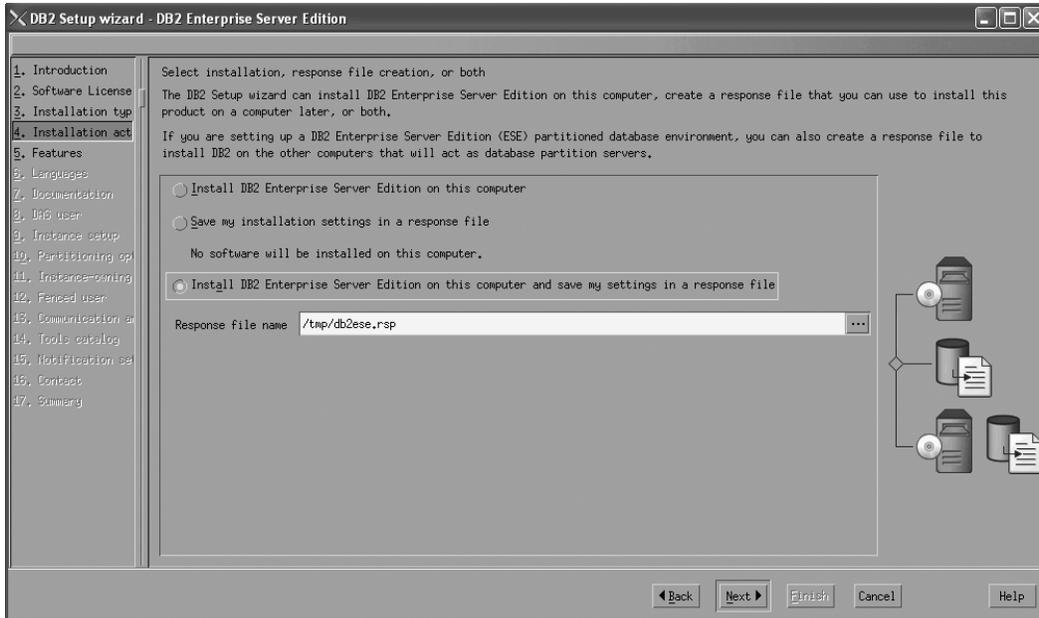


Figure 177. DB2 Setup wizard - Select the installation, response file creation, or both page

- c. Click **Next**. The "Select the features to install" page opens.

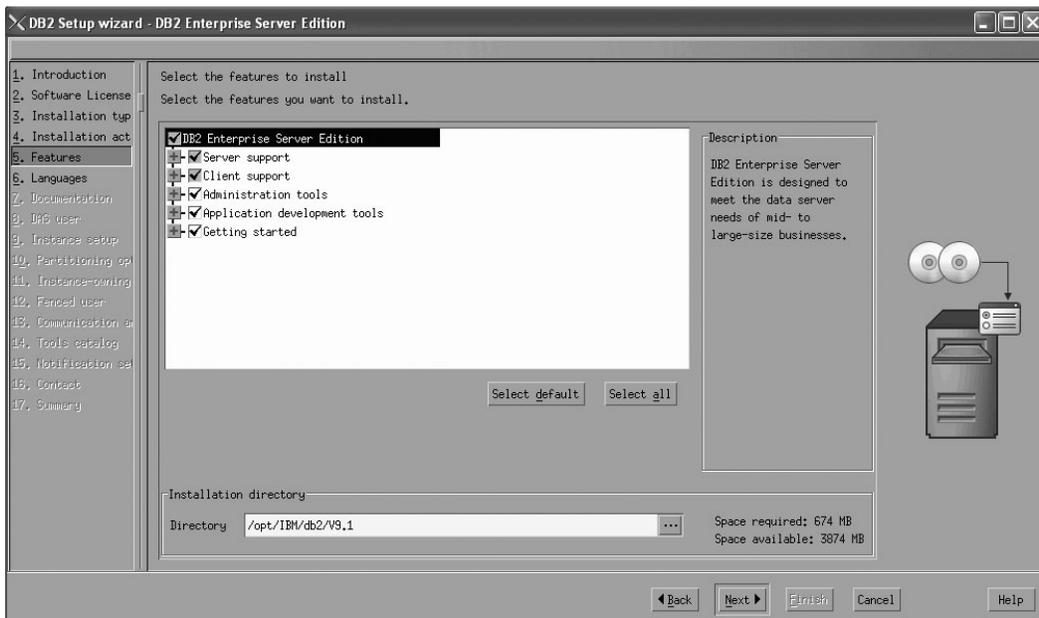


Figure 178. DB2 Setup wizard - Select the features to install page

13. On the "Select the features to install" page:
 - a. Open the + beside **Client support**.

- b. Select the **DB2 LDAP support** feature to remove the check mark.

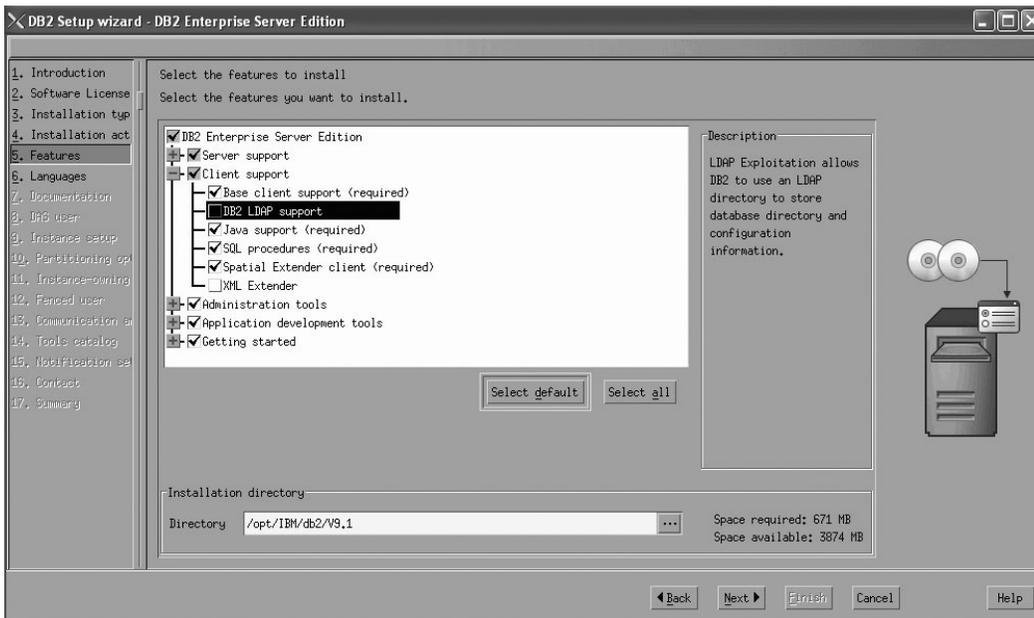


Figure 179. DB2 Setup wizard - Select the features to install page; DB2 LDAP support feature deselected for install

- c. Open the + beside **Administration tools**.
- d. Ensure that the following features under **Administration tools** are deselected for installation:
- **DB2 Instance Setup wizard**
 - **DB2 Web Tools**

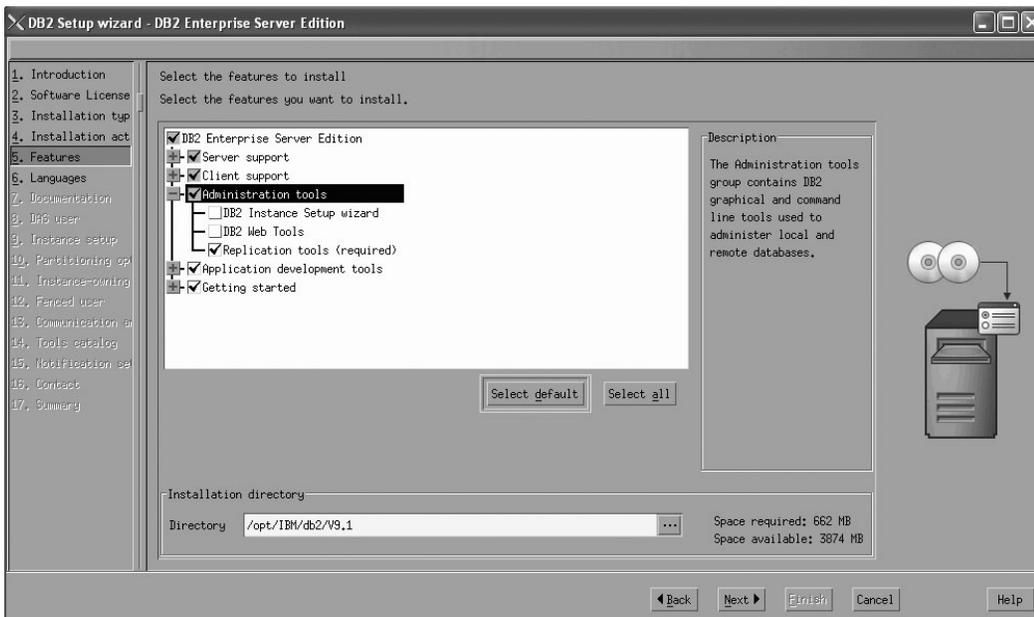


Figure 180. DB2 Setup wizard - Select the features to install page; Administration tools features deselected for install

- e. Open the + beside **Application development tools**.

- f. Ensure that the **ADT sample programs** feature and the **Spatial Extender samples** feature are deselected for installation.

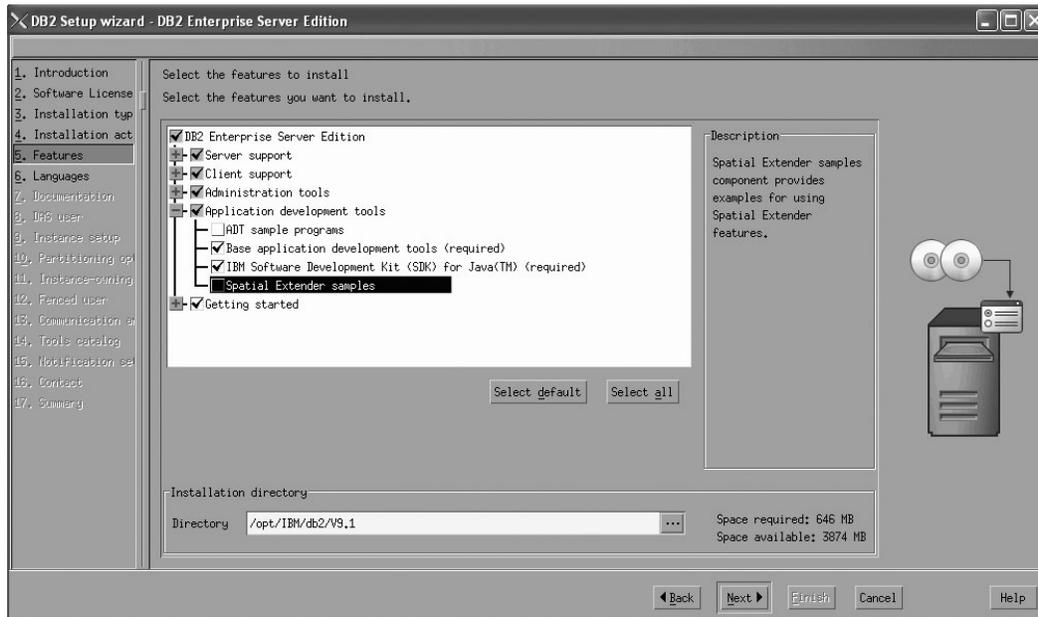


Figure 181. DB2 Setup wizard - Select the features to install page; Application development tools features deselected for installation

- g. Open the + beside **Getting started**.
- h. Ensure that the **First Steps** feature and the **XML Extender samples** feature are deselected for installation.

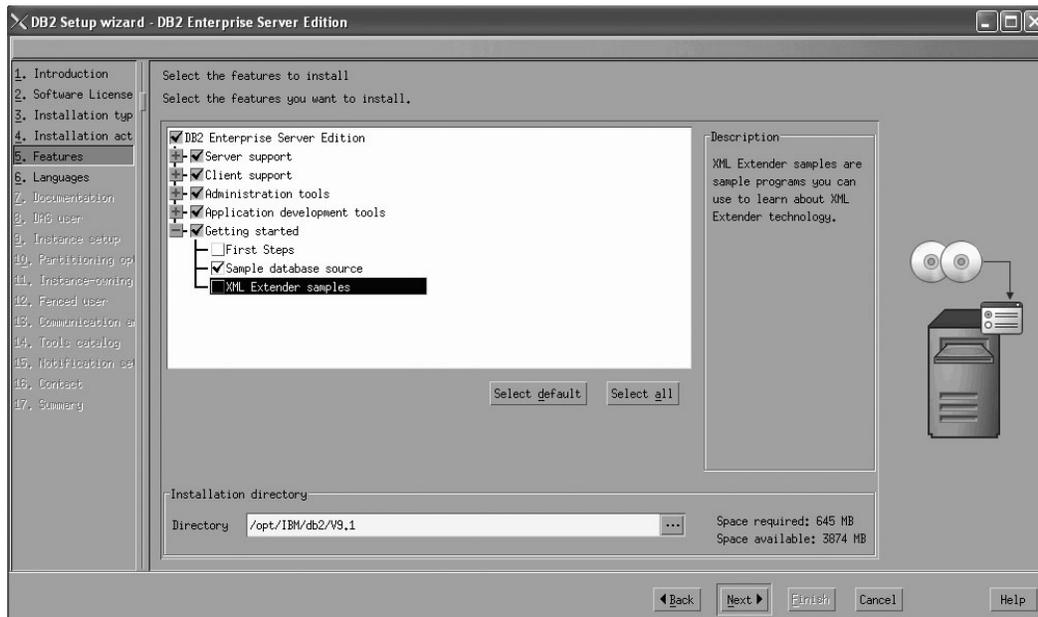


Figure 182. DB2 Setup wizard - Select the features to install page; Getting started options deselected for installation

- i. Click **Next**. The "Select the languages to install" page opens.

14. On the "Select the languages to install" page, English is the only language support that is installed by default.

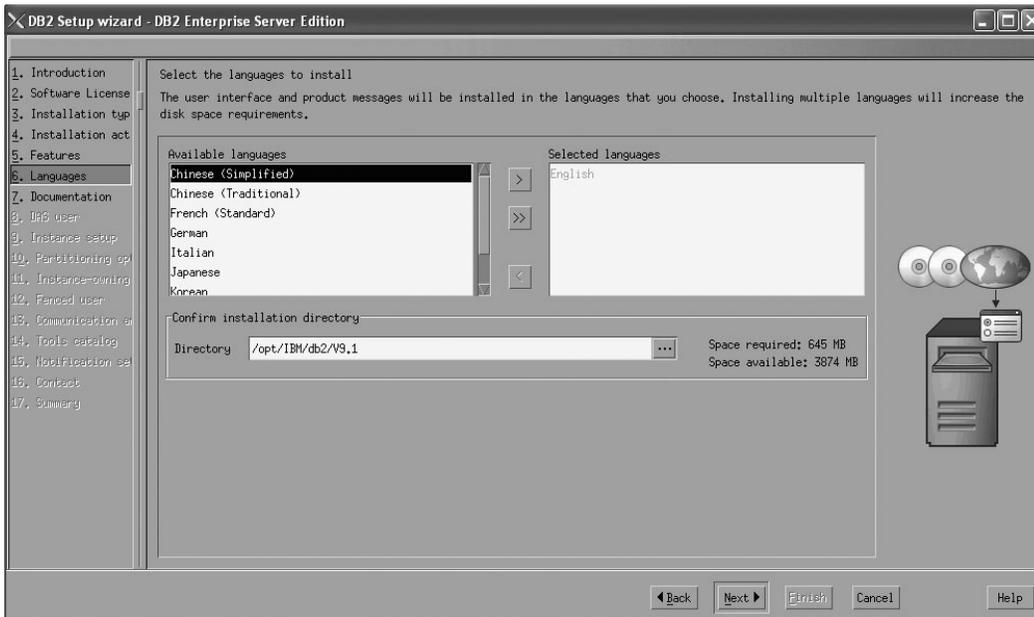


Figure 183. DB2 Setup wizard - Select the languages to install page; English language support selected for installation

15. Click **Next**. The "Specify the location of the DB2 Information Center" page opens.
16. On the "Specify the location of the DB2 Information Center" page:
 - a. Ensure that the **On the IBM Web site** radio button is selected.

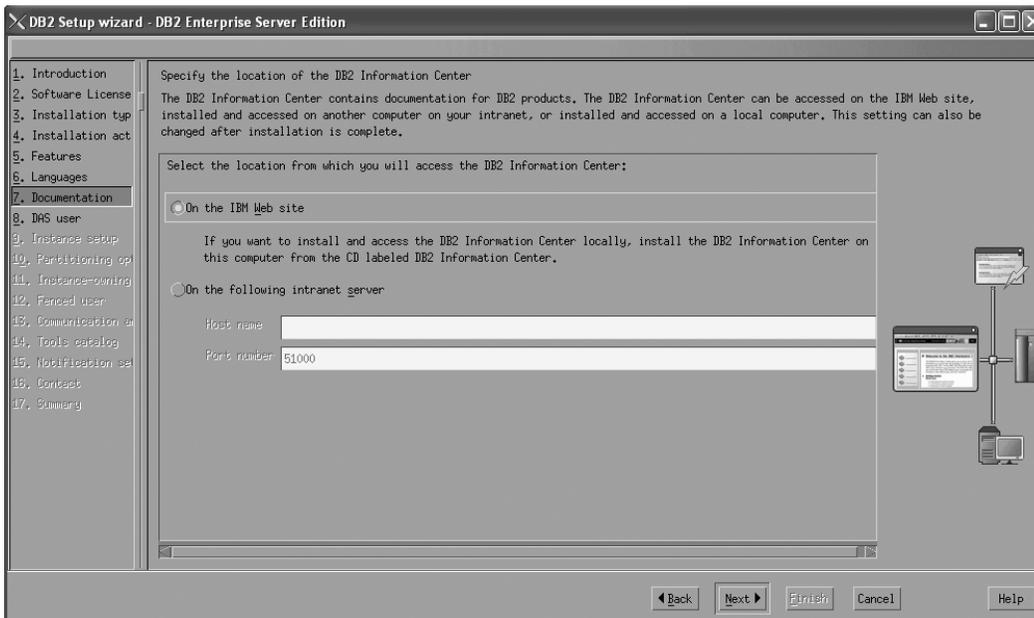


Figure 184. DB2 Setup wizard - Specify the location of the DB2 Information Center; On the IBM Web site option selected

- b. Click **Next**. The "Set user information for the DB2 Administration Server" page opens.
 17. On the "Set user information for the DB2 Administration Server" page:
 - a. Select the **Existing user** radio button.
 - b. Use the ... button to select the user previously defined for the DB2 Administration Server.

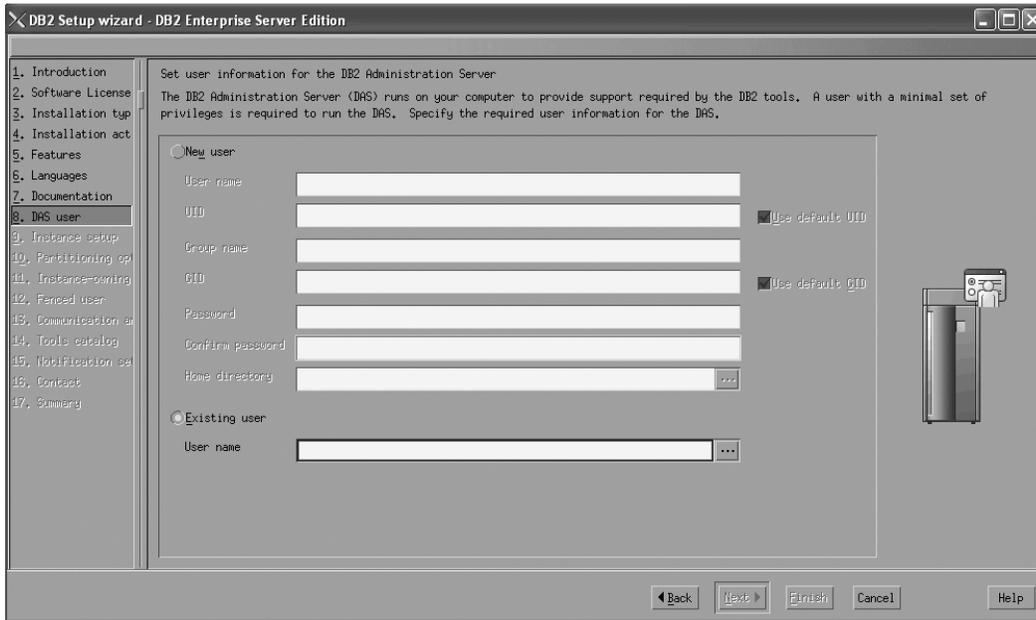


Figure 185. DB2 Setup wizard - Set user information for the DB2 Administration Server page

- c. Click **Next**. The "Set up a DB2 instance" page opens.
 18. On the "Set up a DB2 instance" page:
 - a. Ensure that the **Create a DB2 instance** radio button is selected.

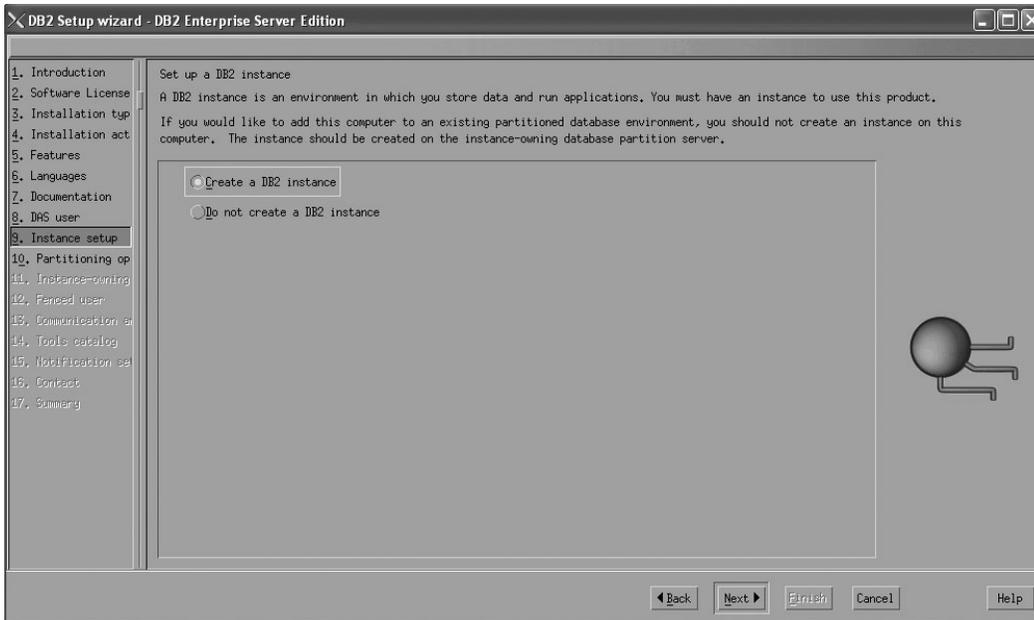


Figure 186. DB2 Setup wizard - Set up a DB2 instance page; Create a DB2 instance option selected

- b. Click **Next**. The "Set up partitioning options for the DB2 instance" page opens.
19. On the "Set up partitioning options for the DB2 instance" page:
 - a. Select the **Multiple partition instance** radio button.
 - b. Type 2 for the **Maximum logical partitions** field.

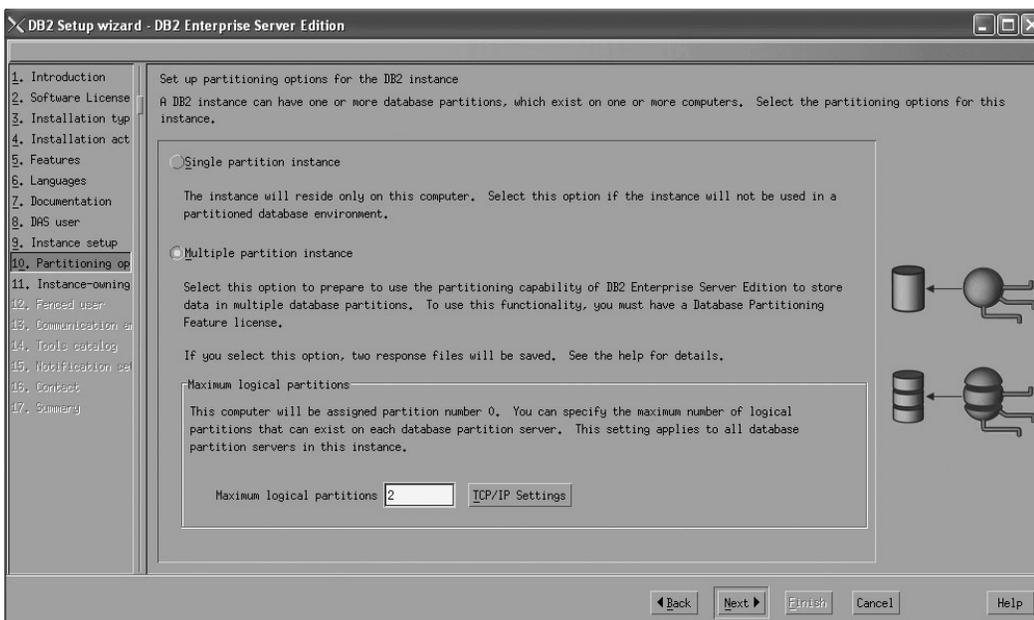


Figure 187. DB2 Setup wizard - Set up partitioning options for the DB2 instance page

Note: For the Common Criteria certification, an SMP configuration of two logical partitions on two computers is demonstrated. Depending on your requirements, it is possible to install one logical partition per computer, or more than two logical partitions per computer. Because

a response file is used to install DB2 Enterprise Server Edition on all subsequent computers, the environment will be consistent across all computers that participate in the partitioned database environment.

- c. Click **Next**. The "Set user information for the DB2 instance owner" page opens.
20. On the "Set user information for the DB2 instance owner" page:
- a. Select the **Existing user** radio button.
 - b. Use the ... button to select the user previously defined for the DB2 instance owner.

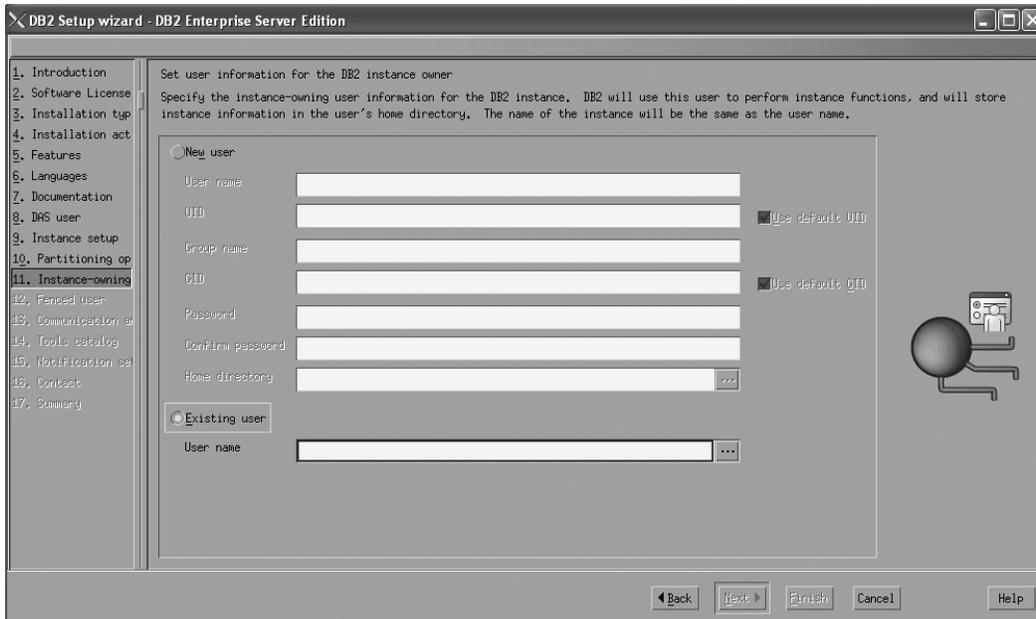


Figure 188. DB2 Setup wizard - Set user information for the DB2 instance owner page

- c. Click **Next**. The "Set user information for the fenced user" page opens.
21. On the "Set user information for the fenced user" page:
- a. Select the **Existing user** radio button.
 - b. Use the ... button to select the user previously defined for the fenced user.

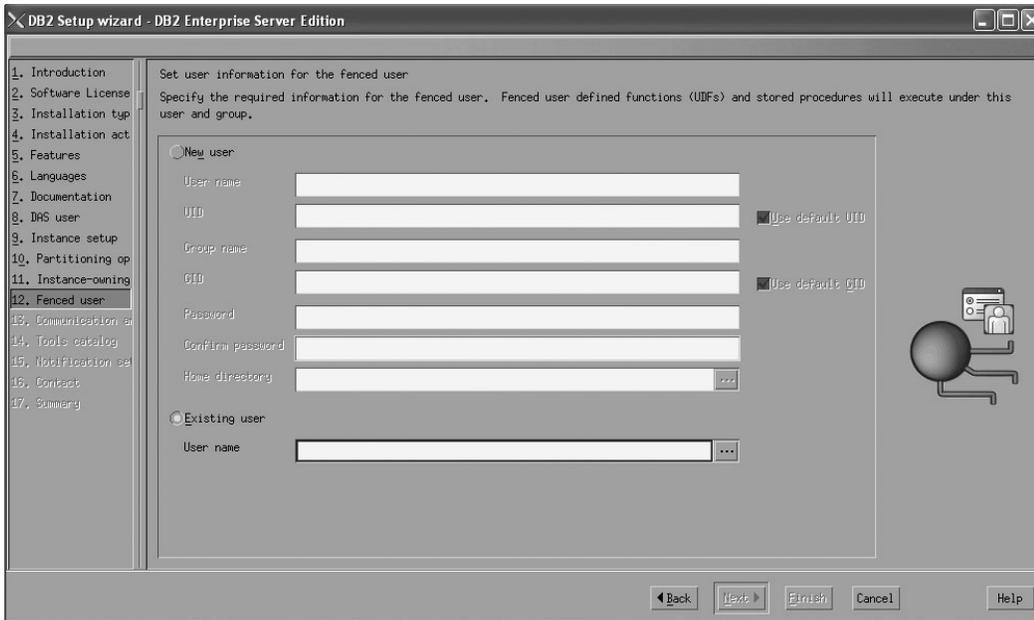


Figure 189. DB2 Setup wizard - Set user information for the fenced user page

- c. Click **Next**. The "Configure instance communication and startup" page opens.
22. On the "Configure instance communication and startup" page:
 - a. Select the **Configure** radio button.
 - b. Ensure that the **Autostart the instance at system startup** check box is deselected.

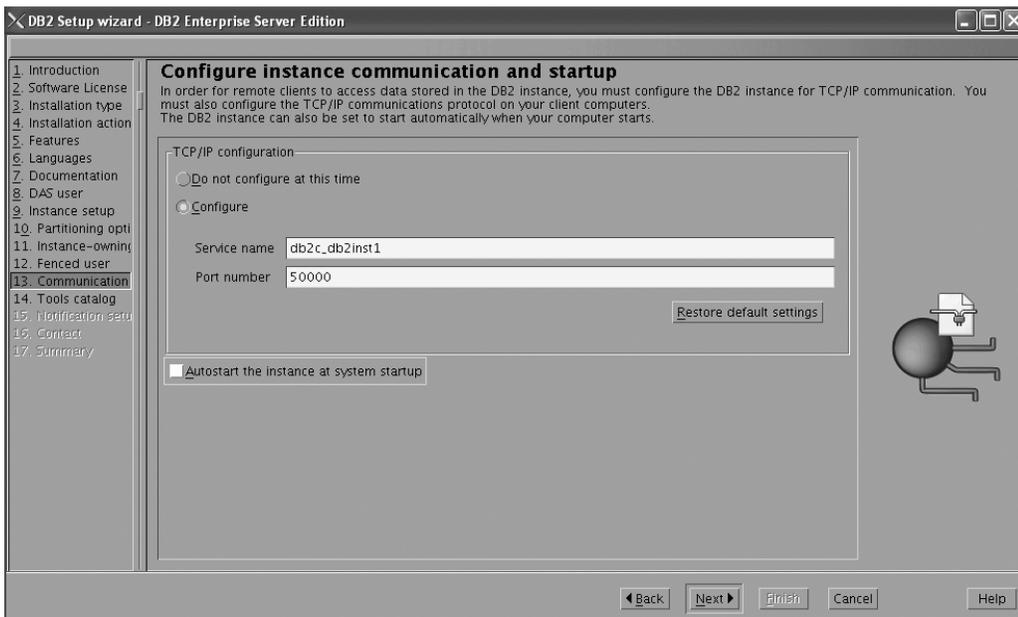


Figure 190. DB2 Setup wizard - Configure instance communication and startup page

- c. Click **Next**. The "Prepare the DB2 tools catalog" page opens.
23. On the "Prepare the DB2 tools catalog" page:

- a. Select the **Do not prepare the DB2 tools catalog** radio button.

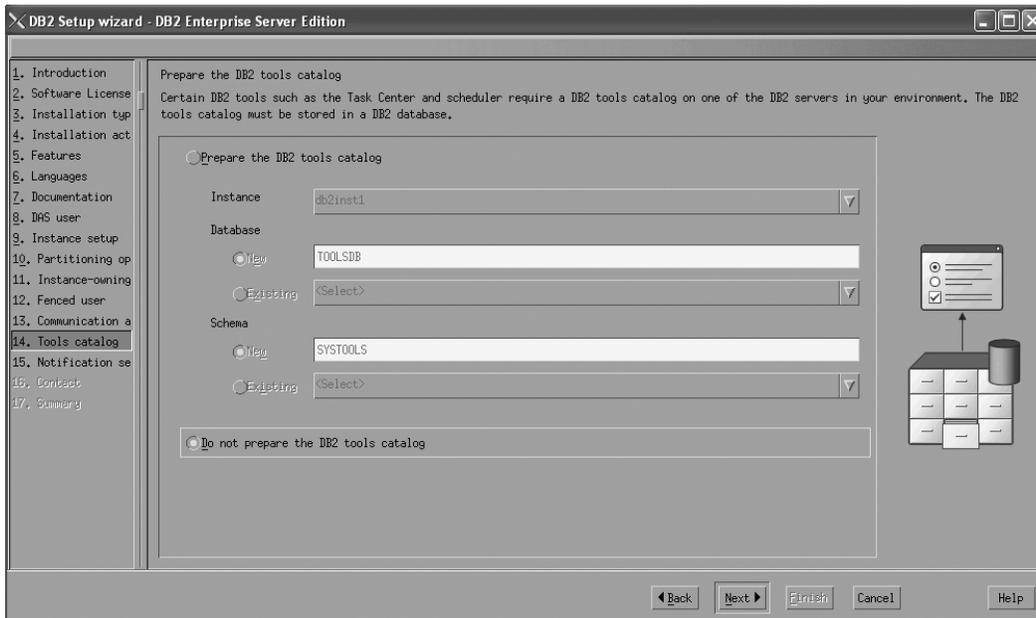


Figure 191. DB2 Setup wizard - Prepare the DB2 tools catalog page

- b. Click **Next**. The "Set up notifications" page opens.
24. On the "Set up notifications" page:
 - a. Select the **Do not set up your DB2 server to send notifications at this time** radio button.

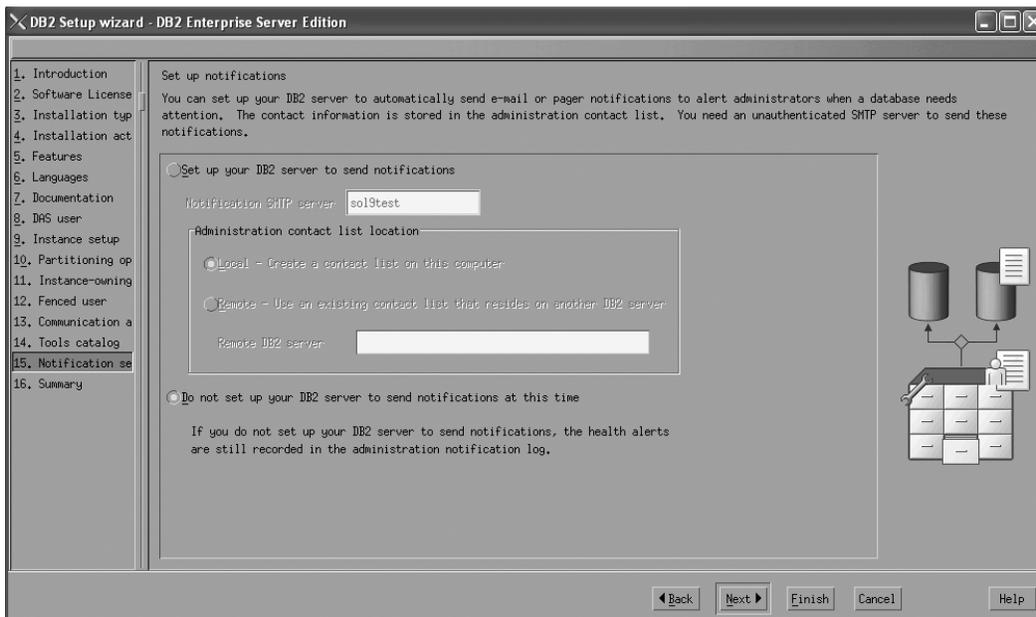


Figure 192. DB2 Setup wizard - Set up notifications page

- b. Click **Next**. The "Start copying files and create response files" page opens.



Figure 193. DB2 Setup wizard - Start copying files and create response files page

25. On the "Start copying files and create response files" page, click **Finish** to begin installing DB2 on your computer.

The "Installing DB2 Enterprise Server Edition" page opens.

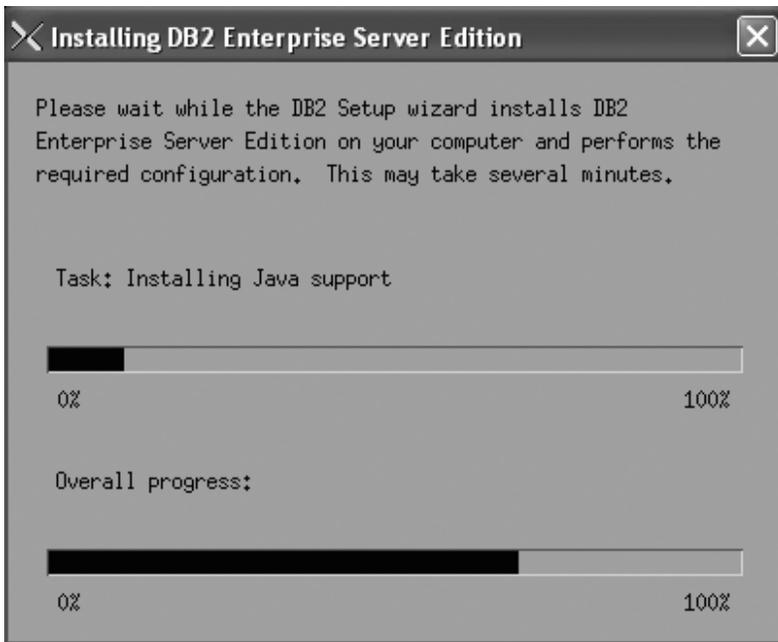


Figure 194. Installing DB2 Enterprise Server Edition page

When the installation completes, the "Setup Complete" page opens.

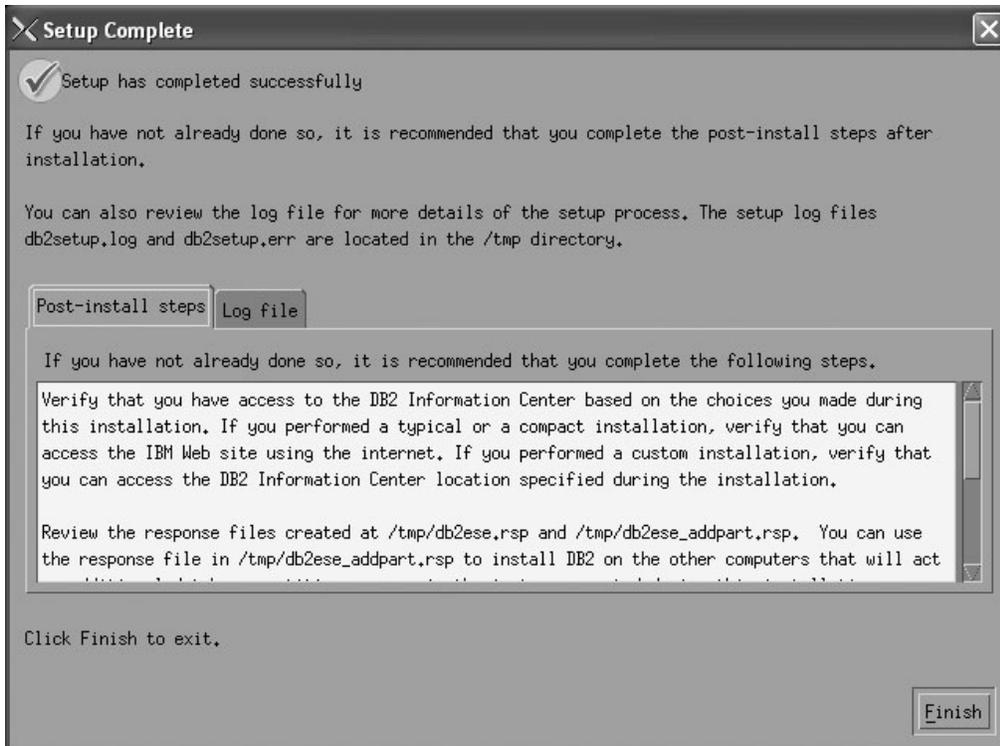


Figure 195. Setup Complete page

On the **Post-install steps** tab, note that the installation results in two response files being created in the /tmp directory: db2ese.rsp and db2ese_addpart.rsp. The response file db2ese_addpart.rsp is used to finish installing the partitioned database environment.

Click **Finish** to exit from the installation GUI.

After you finish using the DB2 Setup wizard to install DB2 on the instance owning computer, you need to verify port range availability, install DB2 on the remaining machines that you want to participate in the instance, create or modify a few files, and finally activate the license files that you downloaded before installing DB2.

1. Perform the steps described in "Verifying port range availability on participating computers (Linux and UNIX)".
2. Copy the db2ese_addpart.rsp file to the same directory as the setup.exe file on the second computer that you want to participate in the partitioned database environment. You can use FTP to accomplish this task, or any other tool that permits you to transfer files. Repeat this step for every computer that you want to participate in the environment.
3. Run the response file on the second computer using the ./db2setup -r command as described in the topic "Installing database partition servers on participating computers using a response file (Linux and UNIX)". Repeat this step for every computer that you want to participate in the environment.
4. Update the db2nodes.cfg file in the InstanceHome/sqllib/ directory. For details, see the topic "Updating the node configuration file (Linux and UNIX)"
5. Create the .rhosts file. See the topic "Enabling the execution of remote commands (Linux and UNIX)" for details.
6. Update the /etc/services file. For more information, see the topic "Enabling communications between database partition servers (Linux and UNIX)".

7. Activate the license files on every computer that you want to participate in the partitioned database environment. See the topic "Registering a DB2 product or feature license key using the db2licm command".

After DB2 Enterprise 9 is installed, see the topic on configuring DB2 to be Common Criteria compliant in the *IBM DB2 Common Criteria Certification: Administration and User Documentation* book.

Installing DB2 Enterprise 9 on Red Hat Enterprise Linux 4 for a multipartition Common Criteria compliant installation

This task provides detailed instructions on installing DB2 Enterprise 9 on Red Hat Enterprise Linux 4 for a Common Criteria compliant installation.

Prerequisites:

- The prerequisites listed in "Installation requirements for DB2 clients and servers (Linux)" must be met.
- The prerequisites listed in "Verifying that NFS is running (Linux and UNIX)" must be met.
- The prerequisites listed in "Creating a file system for a partitioned DB2 server (Linux)" must be met.
- The computer on which you install DB2 must be physically protected from untrusted users.
- Red Hat Enterprise Linux 4 must be installed on the computer.
- The instructions that follow assume that the rsh-server package has been installed as part of the Red Hat 4 installation. See Installation requirements for DB2 clients and servers (Linux) for more information.
- You must have the file v9fp1_linuxx64_ese.tar.gz downloaded to the directory of your choice. You must download this file to the same directory on all computers that will participate in the environment. This file is available from the DB2 9 download site (<http://ibm.com/software/data/db2/udb/support/downloadv9.html>).
- You must have downloaded the applicable activation files from the Passport Advantage site to the same directory on all participating computers. You require these files to activate Enterprise 9 after installation. The instance owner must have read/write authority on this directory.
 - One of the following:
 - DB2_Enterp_Svr_Auth_User_Activation.zip. Required to activate DB2 Enterprise 9 if you purchase DB2 Enterprise 9 on a per user basis.
 - DB2_Enterprise_Svr_Ed_CPU_Activation.zip. Required to activate DB2 Enterprise 9 if you purchase DB2 Enterprise 9 on a per CPU basis.
 - DB2_Database_Partitioning_Activation.zip. Required to activate the Database Partitioning Feature (DPF)
 - DB2_Advanced_Access_Cntrl_Activation.zip. Required to activate label-based access control (LBAC).
- The user names to be used for the following:
 - The DB2 instance owner
 - The DB2 Administration Server
 - The fenced user

If you do not have these user names, obtain them from your system administrator. For more information about these users, see "DB2 users and

groups (Linux and UNIX)" on page 26. For information about creating these users, see "Creating group and user IDs for a DB2 database installation (Linux and UNIX)" on page 30.

The topic "Installing DB2 servers (Linux and UNIX)" provides an overview of installing on Linux and UNIX-based platforms.

Procedure:

Use the following steps to install DB2 Enterprise 9 on Red Hat Enterprise Linux 4 for a Common Criteria compliant environment.

1. Log on to the system as a user with root authority.
2. Decompress the product file:
`gzip -d v9fp1_linuxx64_ese.tar.gz`
3. Untar the product file:
`tar xvf v9fp1_linuxx64_ese.tar`
4. Repeat steps 1, 2, and 3 for every computer that will participate in the partitioned database environment.
5. Change directory on the computer that you want to use as the instance owner:
`cd $HOME/ese/disk1`
6. On the computer that you want to use as the instance owner, issue the `./db2setup` command to open the "IBM DB2 Setup Launchpad" at the "Welcome" page:



Figure 196. Welcome page of the DB2 Setup Launchpad

7. On the "Welcome" page of the "IBM DB2 Setup Launchpad", click **Install a Product** to open the "Install a Product" page.

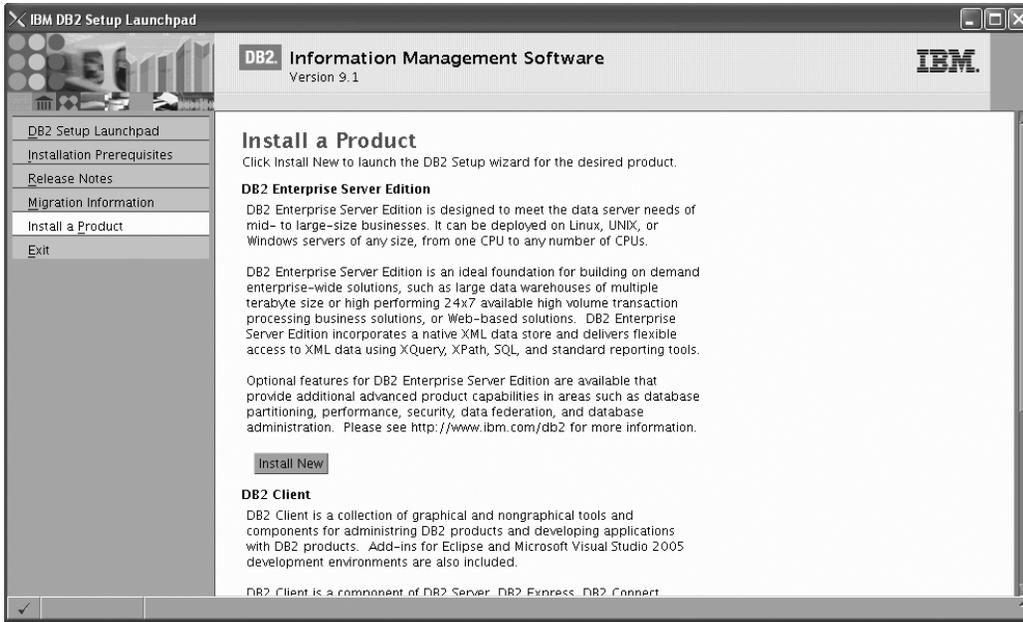


Figure 197. Install a Product page of the DB2 Setup Launchpad

8. On the "Install a Product" page of the "IBM DB2 Setup Launchpad", click the **Install New** button for **DB2 Enterprise Server Edition**
The "DB2 Setup wizard" opens.

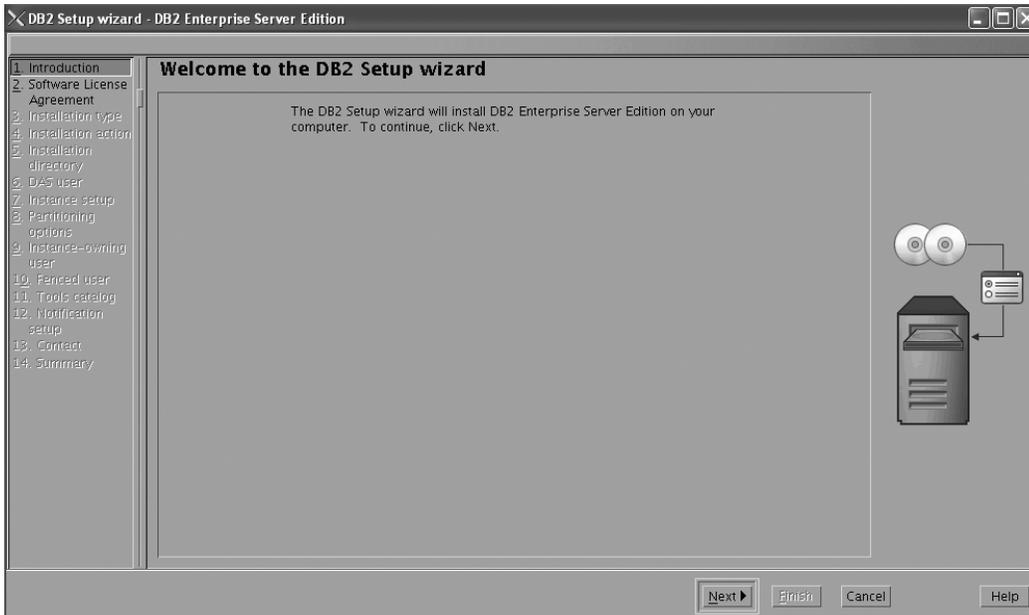


Figure 198. DB2 Setup wizard

9. Click **Next**. The "Software License Agreement" page opens.
10. On the "License Agreement" page:
 - a. After reviewing and agreeing to the license text, select the **Accept** radio button:



Figure 199. DB2 Setup wizard - Software Licence Agreement page

- b. Click **Next**. The "Select the installation type" page opens.
11. On the "Select the installation type" page:
 - a. Select the **Custom** radio button:

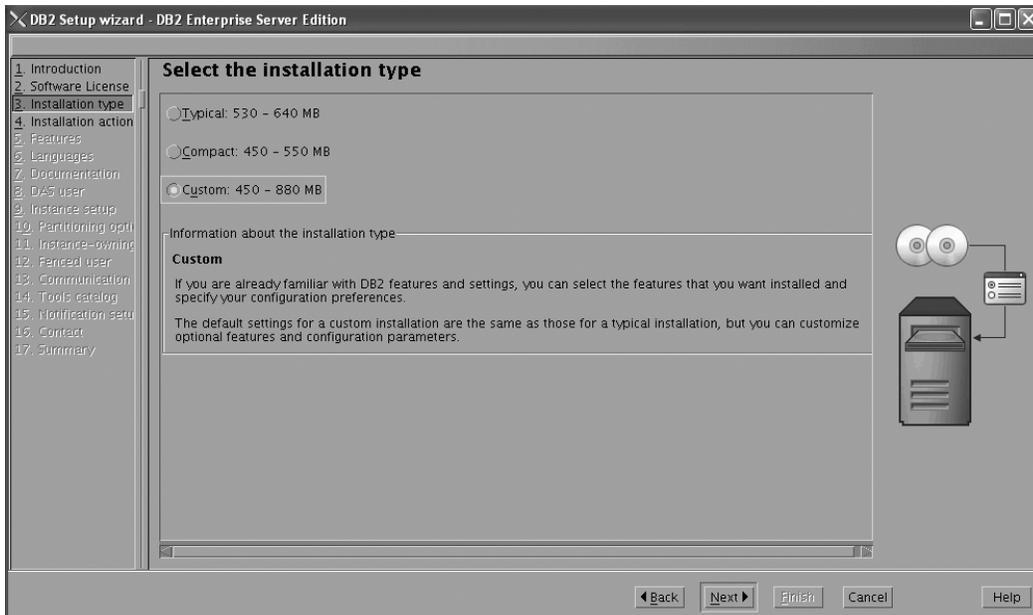


Figure 200. DB2 Setup wizard - Select the installation type page

- b. Click **Next**. The "Select the installation, response file creation, or both" page opens.
12. On the "Select the installation, response file creation, or both" page:
 - a. Select the **Install DB2 Enterprise Server Edition on this computer and save my settings in a response file** radio button.

- b. Use the default value listed in the **Response file name** field. Subsequent installs for the partitioned database environment are performed using the response file db2ese.rsp in the /root directory. Using the response file guarantees a consistent setup of the database environment on all participating computers.

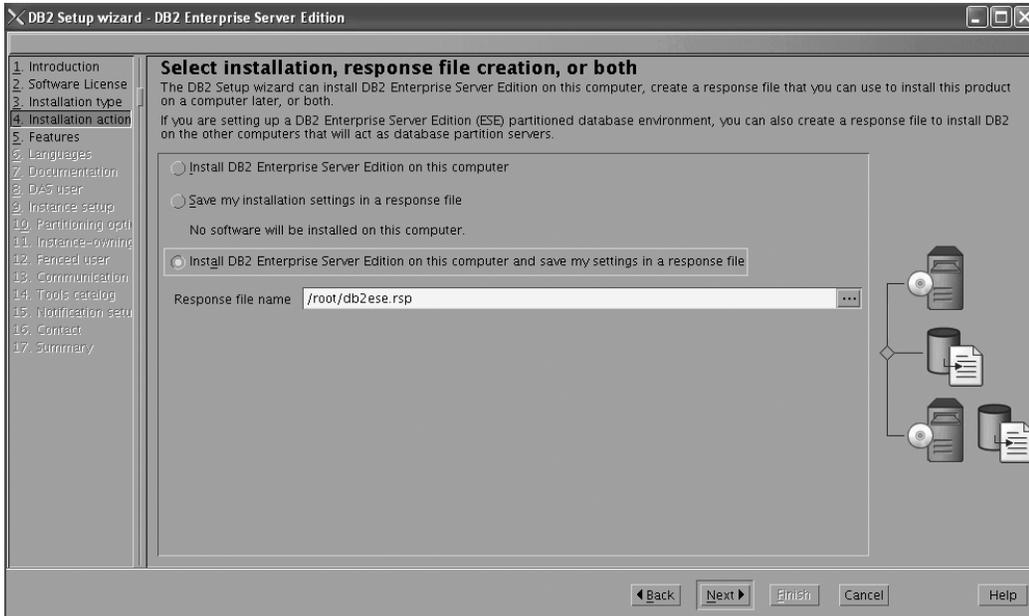


Figure 201. DB2 Setup wizard - Select the installation, response file creation, or both page

- c. Click **Next**. The "Select the features to install" page opens.

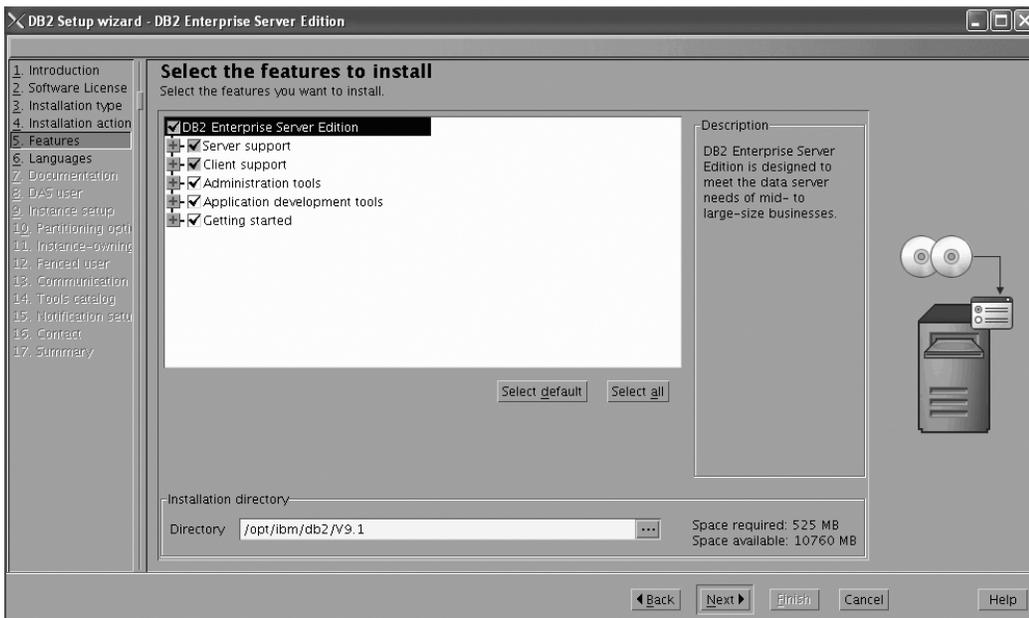


Figure 202. DB2 Setup wizard - Select the features to install page

13. On the "Select the features to install" page:
 - a. Open the + beside **Client support**.

- b. Select the **DB2 LDAP support** feature to remove the check mark. Also ensure that the **XML Extender** feature is also deselected for installation.

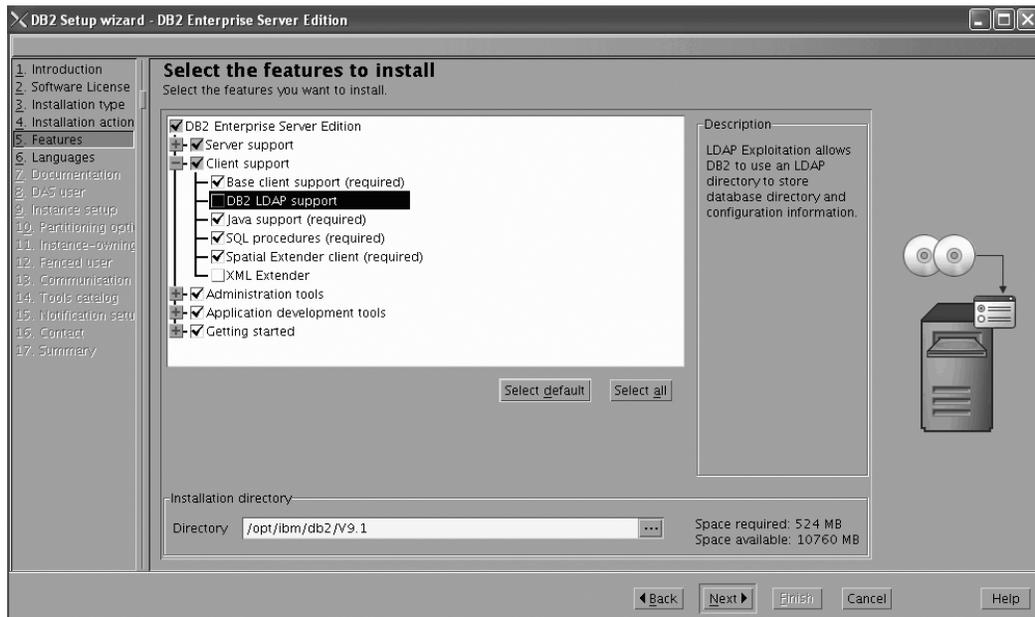


Figure 203. DB2 Setup wizard - Select the features to install page; Client support features deselected for install

- c. Open the + beside **Administration tools**.
- d. Ensure that the following features under **Administration tools** are deselected for installation:
- **Configuration Assistant**

Note: The **Configuration Assistant** feature must be deselected after the **Control Center** feature.

- **Control Center**
- **DB2 Instance Setup wizard**
- **DB2 Web Tools**

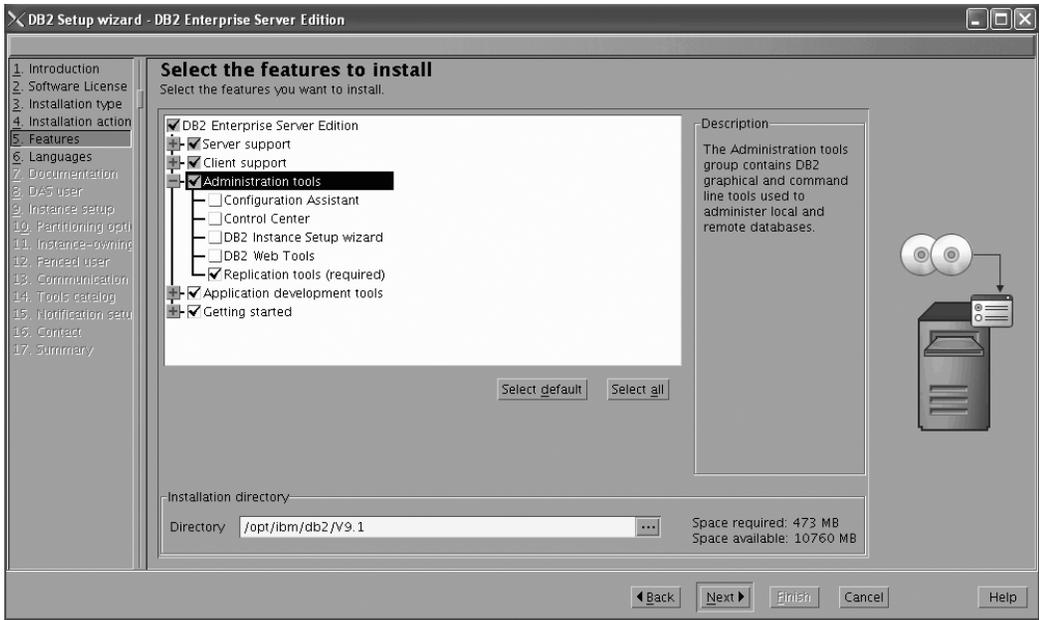


Figure 204. DB2 Setup wizard - Select the features to install page; Administration tools features deselected for install

- e. Open the + beside **Application development tools**.
- f. Ensure that the **ADT sample programs** feature and the **Spatial Extender samples** feature are deselected for installation.

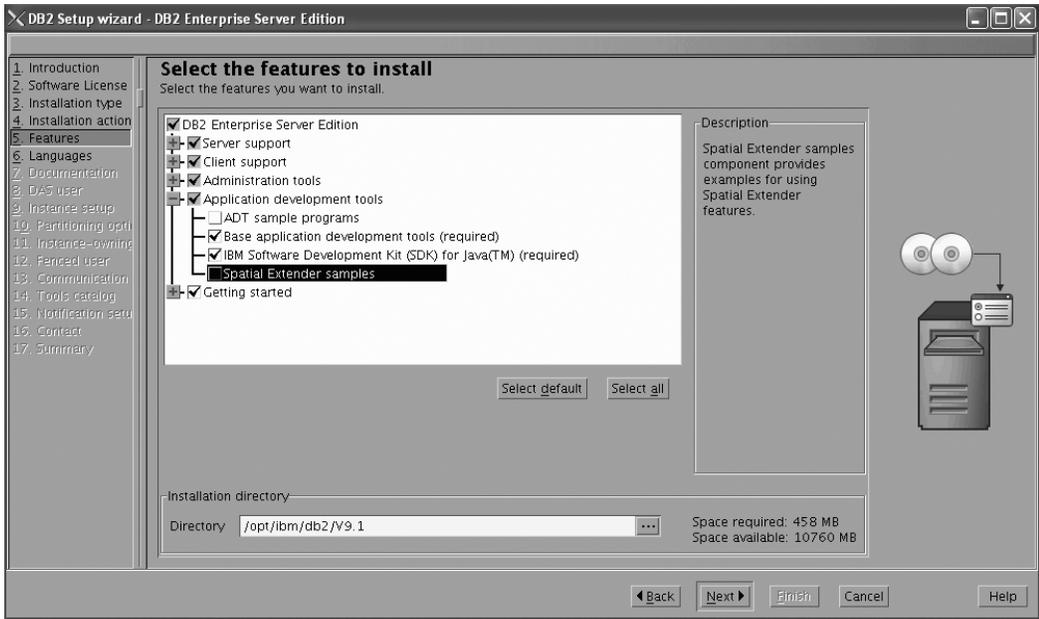


Figure 205. DB2 Setup wizard - Select the features to install page; Application development tools features deselected for installation

- g. Open the + beside **Getting started**.
- h. Ensure that the **First Steps** feature and the **XML Extender samples** feature are deselected for installation.

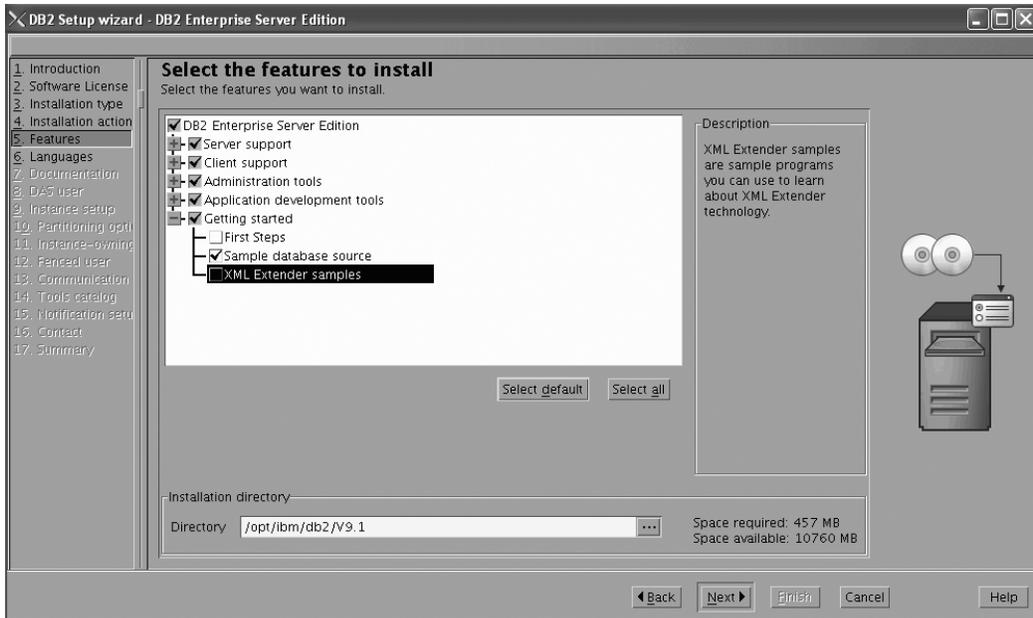


Figure 206. DB2 Setup wizard - Select the features to install page; Getting started features deselected for installation

- i. Click **Next**. The "Select the languages to install" page opens.
14. On the "Select the languages to install" page, English is the only language support that is installed by default.

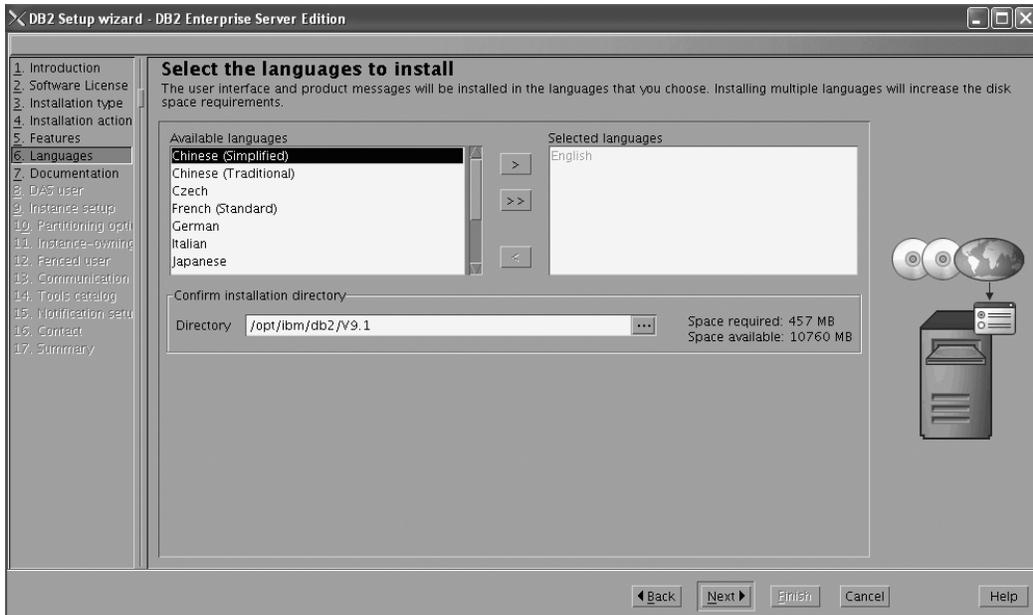


Figure 207. DB2 Setup wizard - Select the languages to install page; English language support selected for installation

- 15. Click **Next**. The "Specify the location of the DB2 Information Center" page opens.
- 16. On the "Specify the location of the DB2 Information Center" page:
 - a. Ensure that the **On the IBM Web site** radio button is selected.

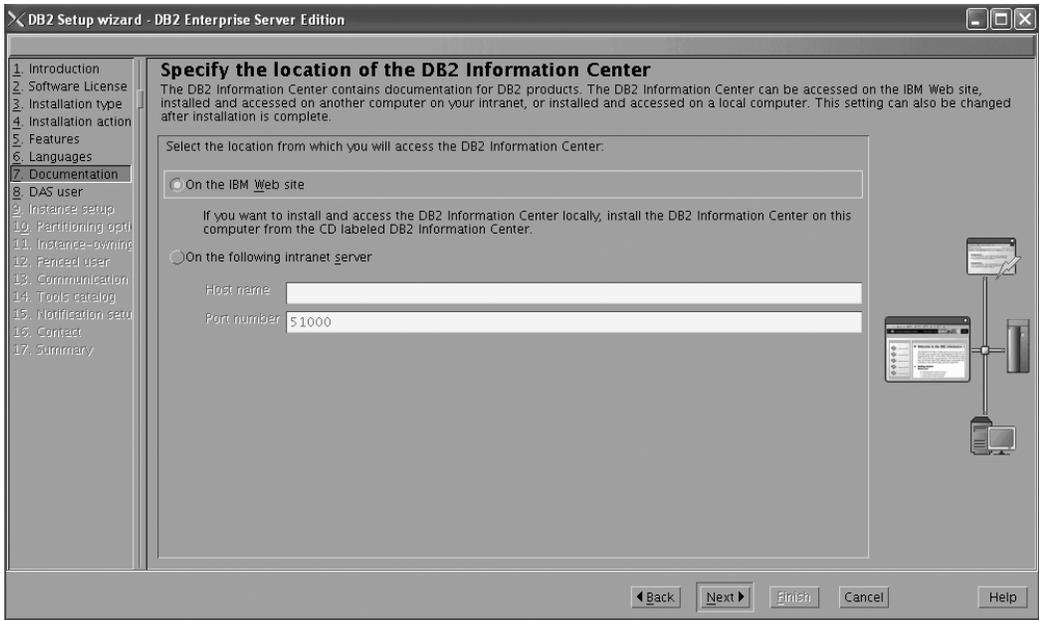


Figure 208. DB2 Setup wizard - Specify the location of the DB2 Information Center; On the IBM Web site option selected

- b. Click **Next**. The "Set user information for the DB2 Administration Server" page opens.
- 17. On the "Set user information for the DB2 Administration Server" page:
 - a. Select the **Existing user** radio button.
 - b. Use the ... button to select the user previously defined for the DB2 Administration Server.

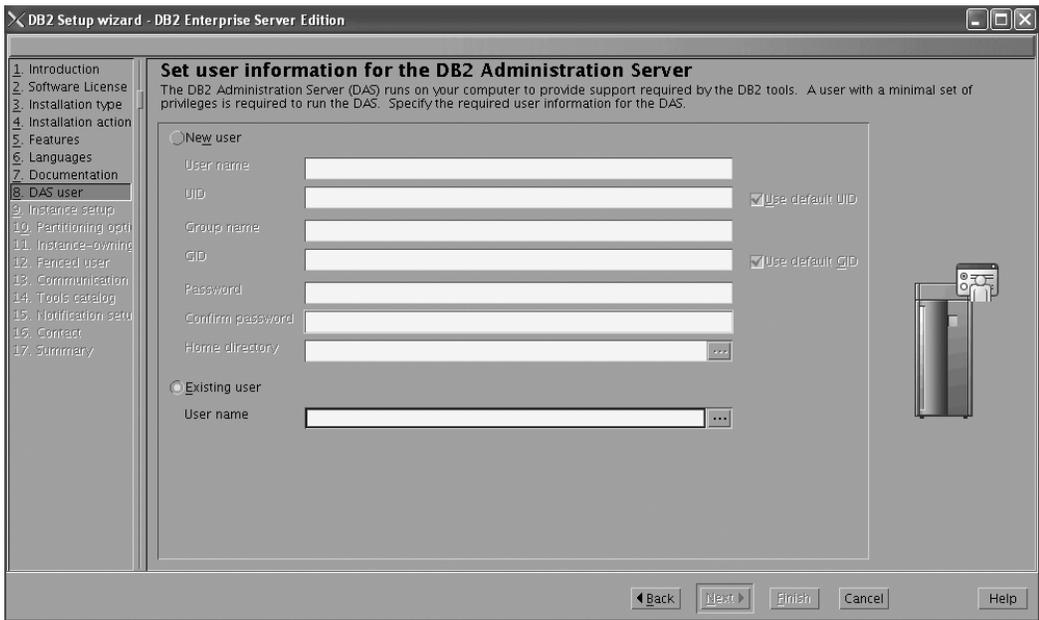


Figure 209. DB2 Setup wizard - Set user information for the DB2 Administration Server page

- c. Click **Next**. The "Set up a DB2 instance" page opens.
- 18. On the "Set up a DB2 instance" page:

- a. Ensure that the **Create a DB2 instance** radio button is selected.



Figure 210. DB2 Setup wizard - Set up a DB2 instance page

- b. Click **Next**. The "Set up partitioning options for the DB2 instance" page opens.
19. On the "Set up partitioning options for the DB2 instance" page:
 - a. Select the **Multiple partition instance** radio button.
 - b. Type 2 for the **Maximum logical partitions** field.

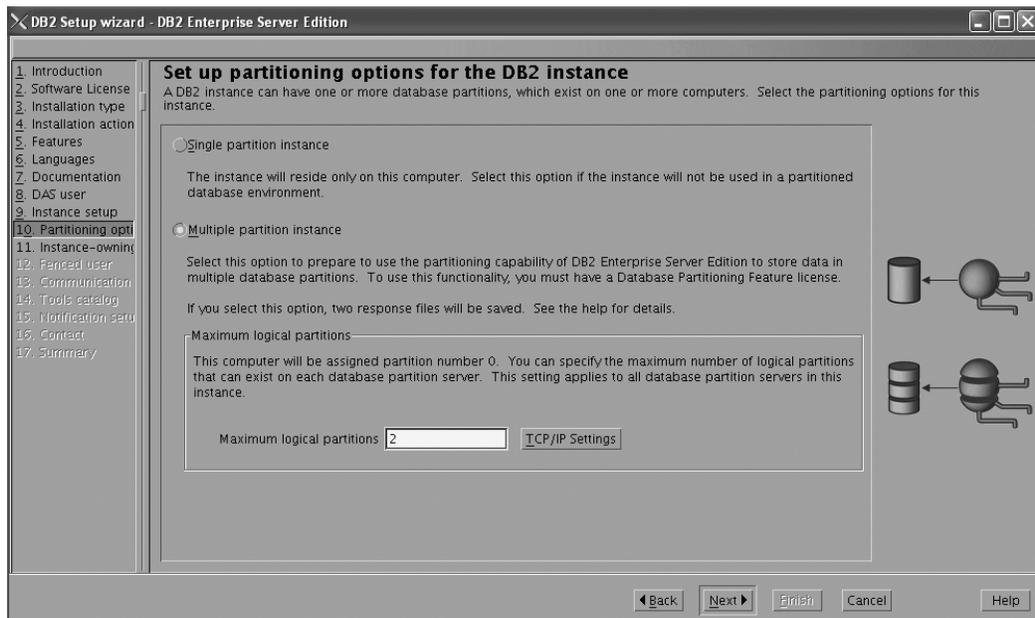


Figure 211. DB2 Setup wizard - Set up partitioning options for the DB2 instance page

Note: For the Common Criteria certification, an SMP configuration of two logical partitions on two computers is demonstrated. Depending on

your requirements, it is possible to install one logical partition per computer, or more than two logical partitions per computer. Because a response file is used to install DB2 Enterprise Server Edition on all subsequent computers, the environment will be consistent across all computers that participate in the partitioned database environment.

- c. Click **Next**. The "Set user information for the DB2 instance owner" page opens.
20. On the "Set user information for the DB2 instance owner" page:
- a. Select the **Existing user** radio button.
 - b. Use the ... button to select the user previously defined for the DB2 instance owner.

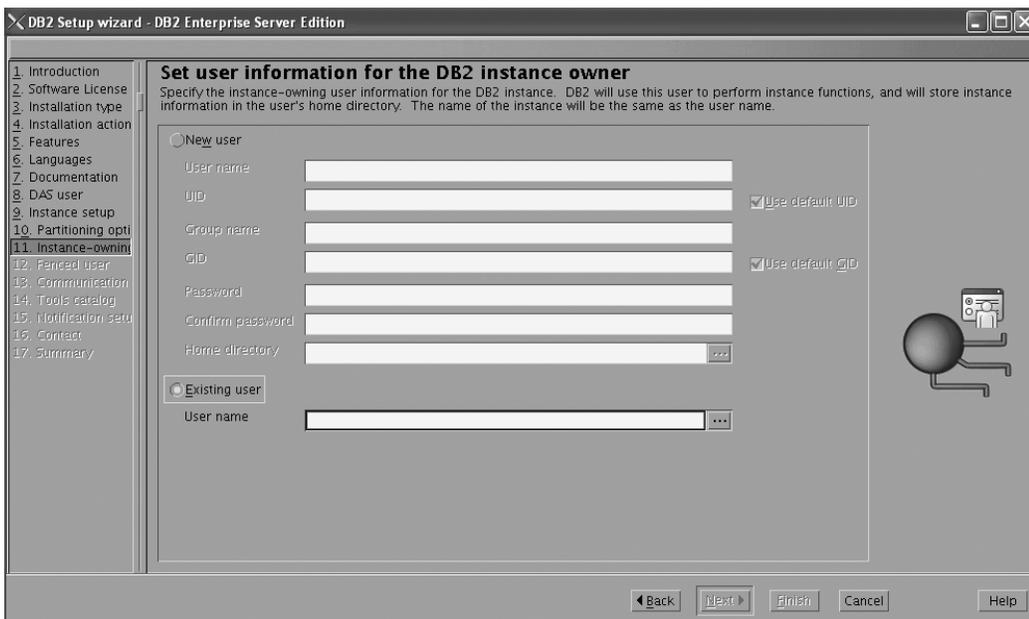


Figure 212. DB2 Setup wizard - Set user information for the DB2 instance owner page

- c. Click **Next**. The "Set user information for the fenced user" page opens.
21. On the "Set user information for the fenced user" page:
- a. Select the **Existing user** radio button.
 - b. Use the ... button to select the user previously defined for the fenced user.

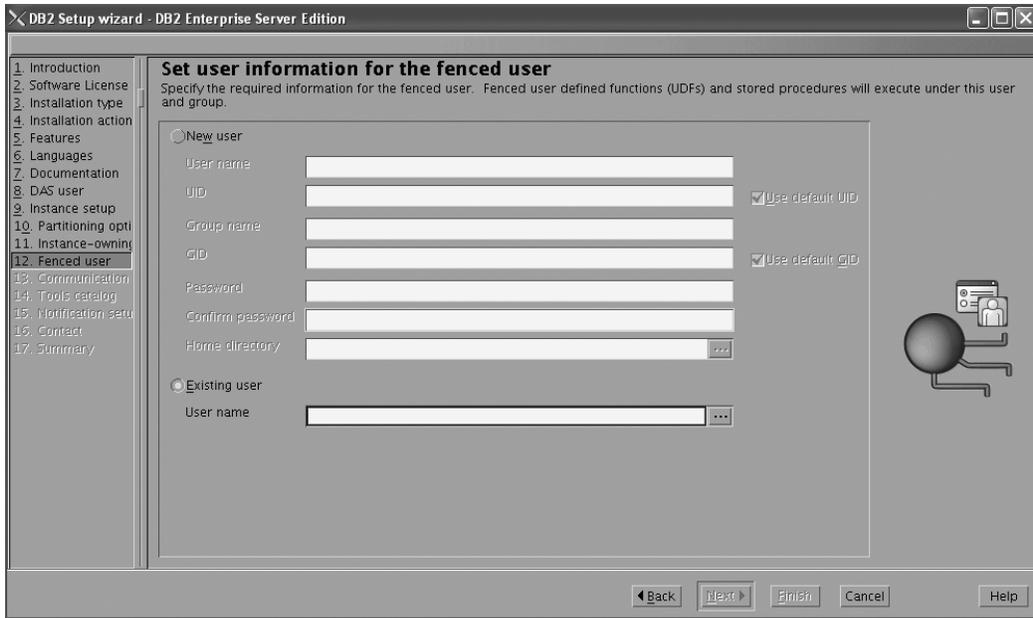


Figure 213. DB2 Setup wizard - Set user information for the fenced user page

- c. Click **Next**. The "Configure instance communication and startup" page opens.
22. On the "Configure instance communication and startup" page:
 - a. Select the **Configure** radio button.
 - b. Ensure that the **Autostart the instance at system startup** check box is deselected.

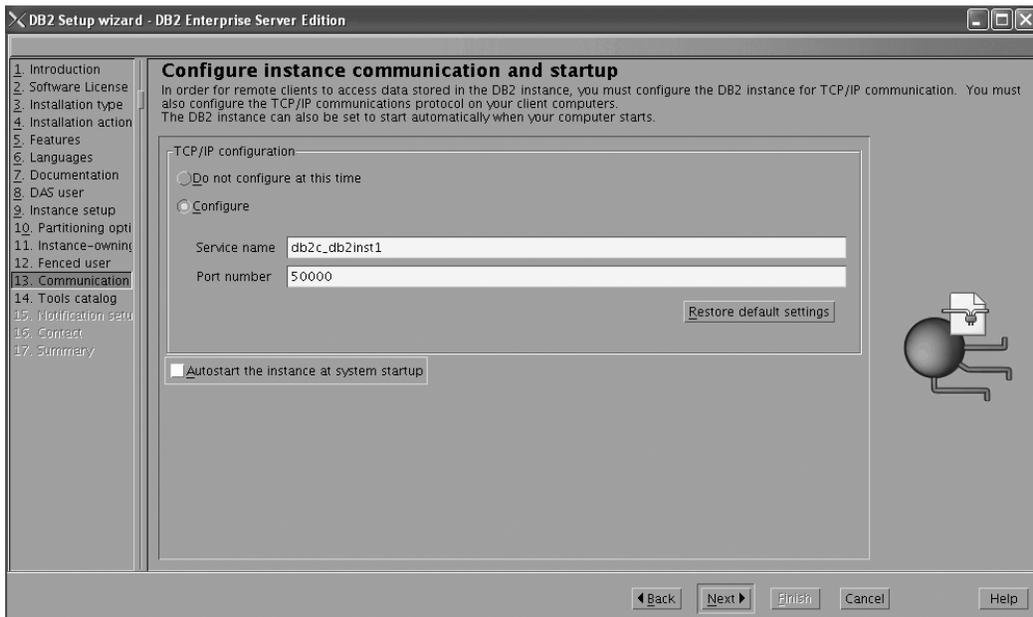


Figure 214. DB2 Setup wizard - Configure instance communication and startup page

- c. Click **Next**. The "Prepare the DB2 tools catalog" page opens.
23. On the "Prepare the DB2 tools catalog" page:

- a. Select the **Do not prepare the DB2 tools catalog** radio button.

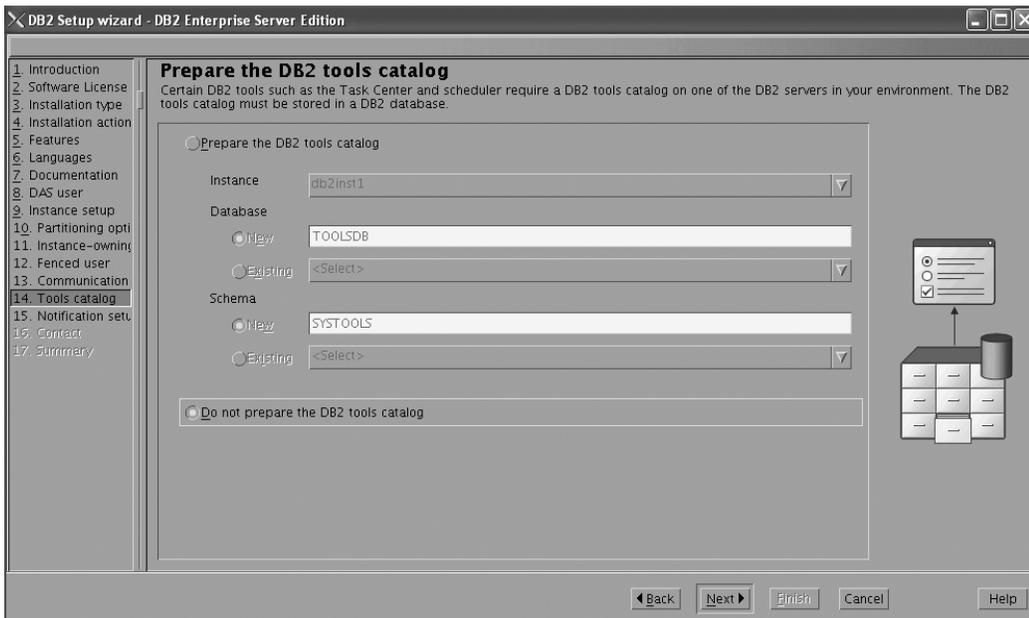


Figure 215. DB2 Setup wizard - Prepare the DB2 tools catalog page

- b. Click **Next**. The "Set up notifications" page opens.
24. On the "Set up notifications" page:
 - a. Select the **Do not set up your DB2 server to send notifications at this time** radio button.

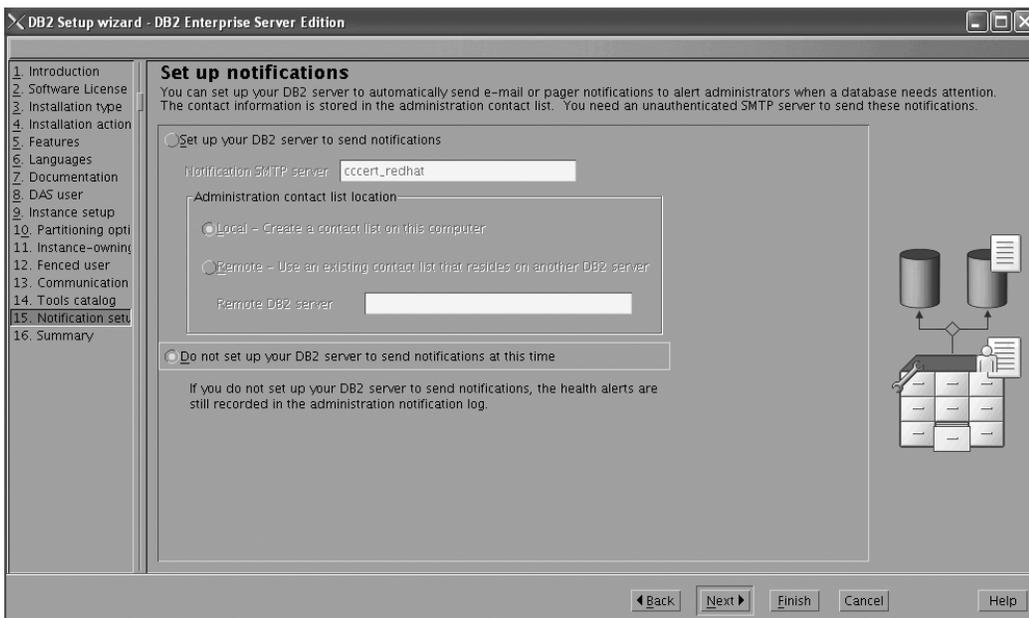


Figure 216. DB2 Setup wizard - Set up notifications page

- b. Click **Next**. The "Start copying files and create response files" page opens.

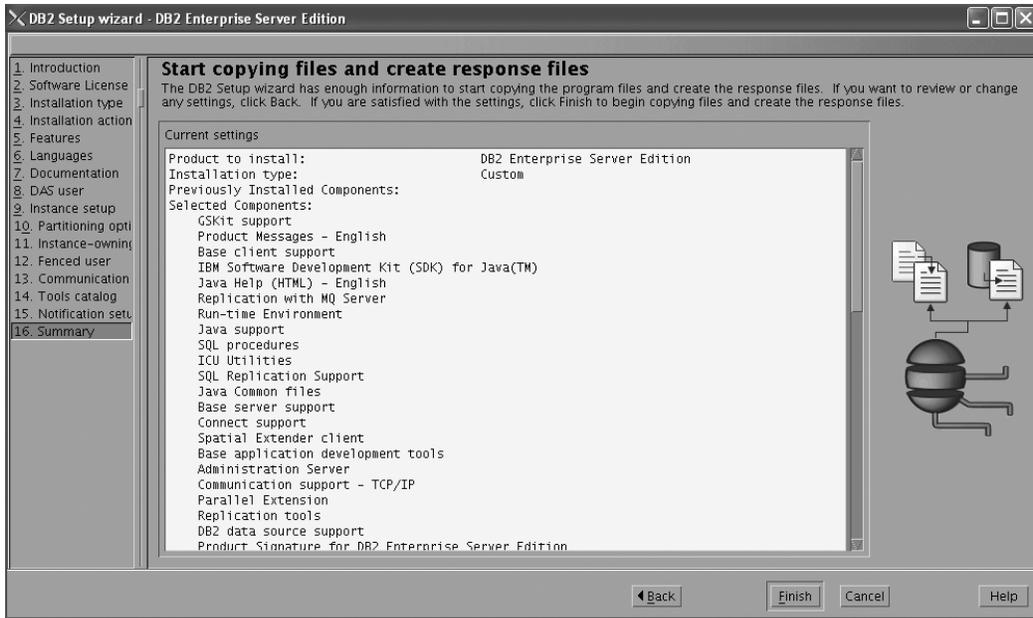


Figure 217. DB2 Setup wizard - Start copying files and create response files page

25. On the "Start copying files and create response files" page, click **Finish** to begin installing DB2 on your computer.

The "Installing DB2 Enterprise Server Edition" page opens.

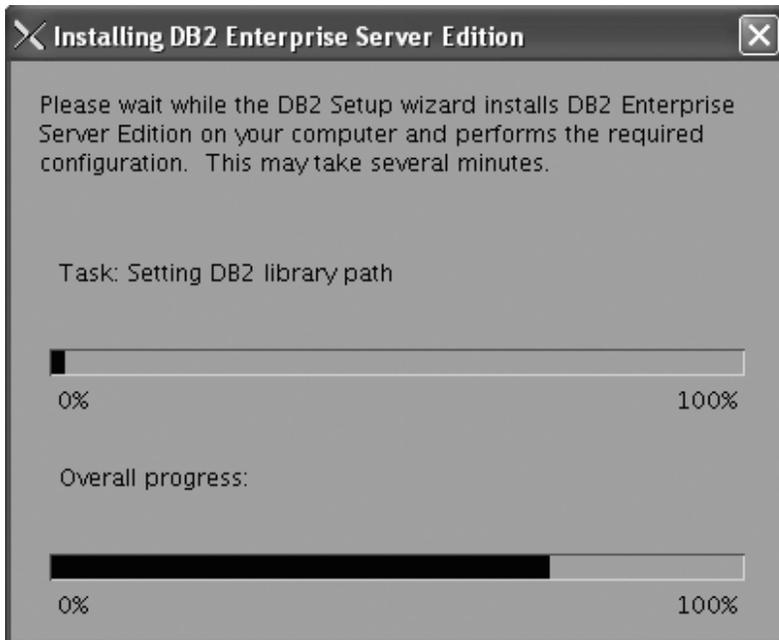


Figure 218. Installing DB2 Enterprise Server Edition page

When the installation completes, the "Setup Complete" page opens.

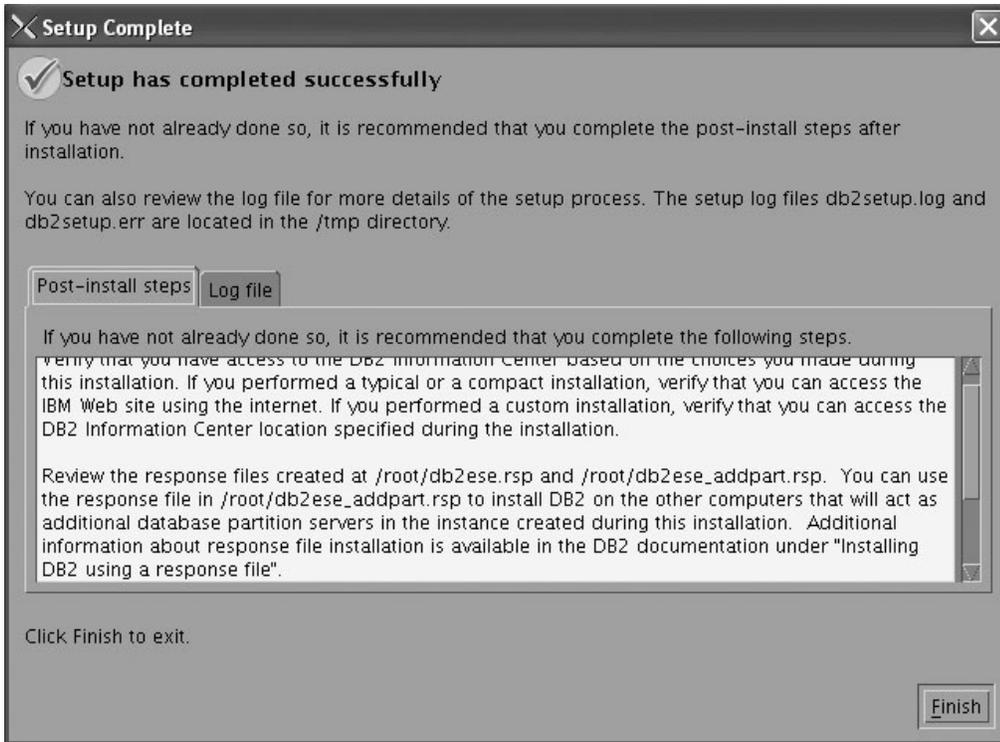


Figure 219. Setup Complete page

On the **Post-install steps** tab, note that the installation results in two response files being created in the /root directory: db2ese.rsp and db2ese_addpart.rsp. The response file db2ese_addpart.rsp is used to finish installing the partitioned database environment.

Click **Finish** to exit from the installation GUI.

After you finish using the DB2 Setup wizard to install DB2 on the instance owning computer, you need to verify port range availability, install DB2 on the remaining machines that you want to participate in the instance, create or modify a few files, and finally activate the license files that you downloaded before installing DB2.

1. Perform the steps described in "Verifying port range availability on participating computers (Linux and UNIX)".
2. Copy the db2ese_addpart.rsp file to the same directory as the setup.exe file on the second computer that you want to participate in the partitioned database environment. You can use FTP to accomplish this task, or any other tool that permits you to transfer files. Repeat this step for every computer that you want to participate in the environment.
3. Run the response file on the second computer using the ./db2setup -r command as described in the topic "Installing database partition servers on participating computers using a response file (Linux and UNIX)". Repeat this step for every computer that you want to participate in the environment.
4. Update the db2nodes.cfg file in the InstanceHome/sql/lib/ directory. For details, see the topic "Updating the node configuration file (Linux and UNIX)"
5. Create the .rhosts file. See the topic "Enabling the execution of remote commands (Linux and UNIX)" for details.
6. Update the /etc/services file. For more information, see the topic "Enabling communications between database partition servers (Linux and UNIX)".

7. Activate the license files on every computer that you want to participate in the partitioned database environment. See the topic " Registering a DB2 product or feature license key using the db2licm command".

After DB2 Enterprise 9 is installed, see the topic on configuring DB2 to be Common Criteria compliant in the *IBM DB2 Common Criteria Certification: Administration and User Documentation* book.

Installing DB2 Enterprise 9 on Windows Server 2003 for a multipartition Common Criteria compliant installation

This topic provides detailed instructions on installing DB2 Enterprise 9 on Windows Server 2003 for a Common Criteria compliant installation.

Prerequisites:

- The prerequisites listed in An overview of installing your DB2 product (Windows) must be met.
- The prerequisites listed in "Preparing the environment for a partitioned DB2 server (Windows)" must be met.
- The computer on which you install DB2 must be physically protected from untrusted users.
- Windows Server 2003 must be installed on the computer.
- Windows Server 2003 must be configured to disable remote access services (such as terminal server and file system shares) before DB2 is installed. For information on performing this task, refer to the operating system documentation.
- You must have the file v9fp1_winx64_ese.exe downloaded to the directory of your choice. You must download this file to the same directory on all computers that will participate in the environment. This file is available from the DB2 9 download site (<http://ibm.com/software/data/db2/udb/support/downloadv9.html>). This file is self-extracting.
- You must have downloaded the applicable activation files from the Passport Advantage site to the same directory on all participating computers. You require these files to activate Enterprise 9 after installation:
 - One of the following:
 - DB2_Enterp_Svr_Auth_User_Activation.zip. Required to activate DB2 Enterprise 9 if you purchase DB2 Enterprise 9 on a per user basis.
 - DB2_Enterprise_Svr_Ed_CPU_Activation.zip. Required to activate DB2 Enterprise 9 if you purchase DB2 Enterprise 9 on a per CPU basis.
 - DB2_Database_Partitioning_Activation.zip. Required to activate the Database Partitioning Feature (DPF)
 - DB2_Advanced_Access_Cntrl_Activation.zip. Required to activate label-based access control (LBAC).
- The domain name.
- The user names to be used for the following:
 - The DB2 instance owner
 - The DB2 Administration Server
 - The fenced user

If you do not have these user names, obtain them from your system administrator. For more information about these users, see "Required user accounts for installation of DB2 server products (Windows)" on page 12.

The topic "Installing DB2 servers (Windows)" provides an overview of installing on Windows.

Procedure:

Use the following steps to install DB2 Enterprise 9 on Windows Server 2003 for a Common Criteria compliant environment.

1. On the computer that you want to use as the instance owner:
 - a. Double click on the v9fp1_winx64_ese.exe file. Windows will prompt you with a default temporary directory in which the files will be unzipped.
 - b. Optional: To select a directory other than the default directory, use the **Browse** button.
 - c. Click **Unzip** to unzip the files.
 - d. Change directories to the directory where you extracted the files.
2. Double-click the setup.exe file to open the "IBM DB2 Setup Launchpad" at the "Welcome" page:

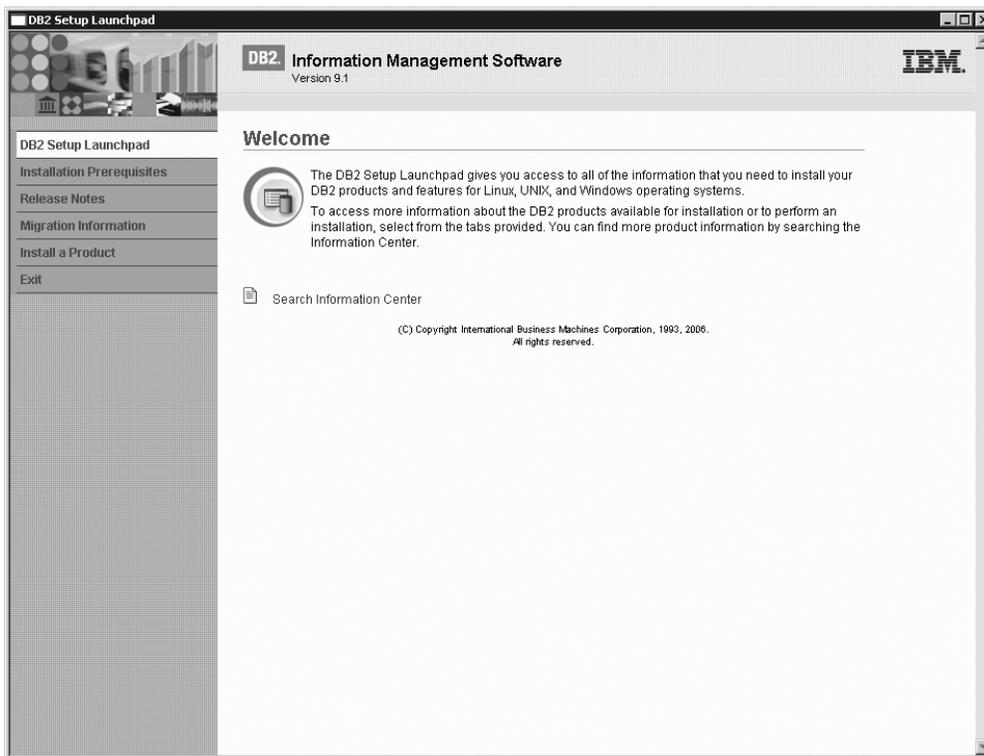


Figure 220. Welcome page of the DB2 Setup Launchpad

3. On the "Welcome" page of the "IBM DB2 Setup Launchpad", click **Install a Product** to open the "Install a Product" page.

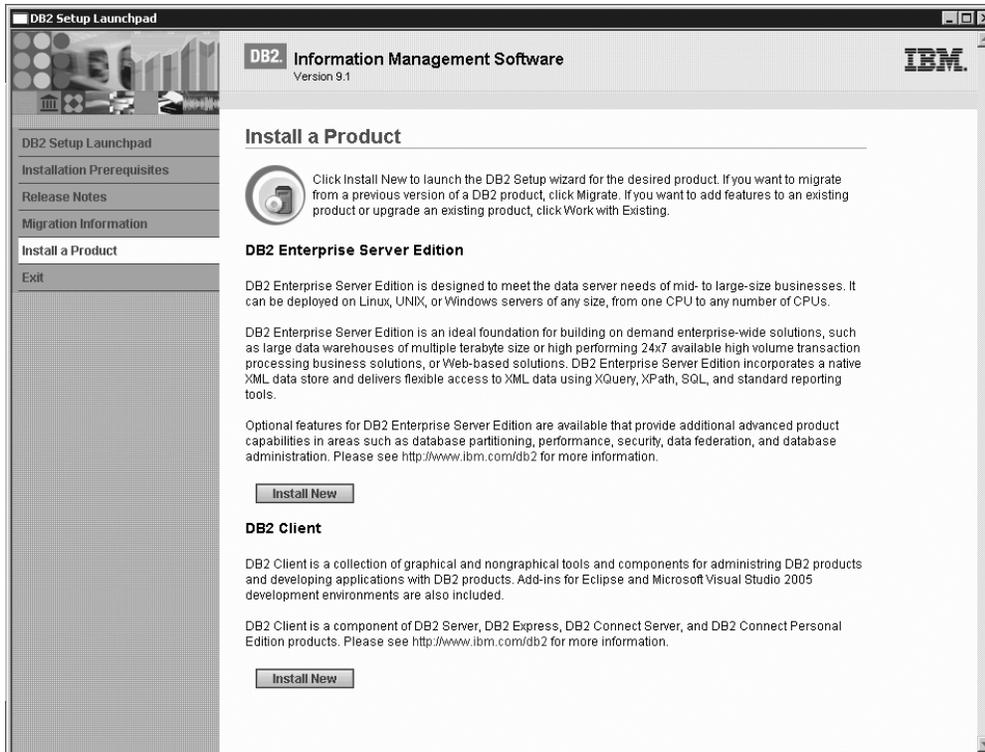


Figure 221. Install a Product page of the DB2 Setup Launchpad

4. On the "Install a Product" page of the "IBM DB2 Setup Launchpad", click the **Install New** button for **DB2 Enterprise Server Edition**
The "DB2 Setup wizard" opens.

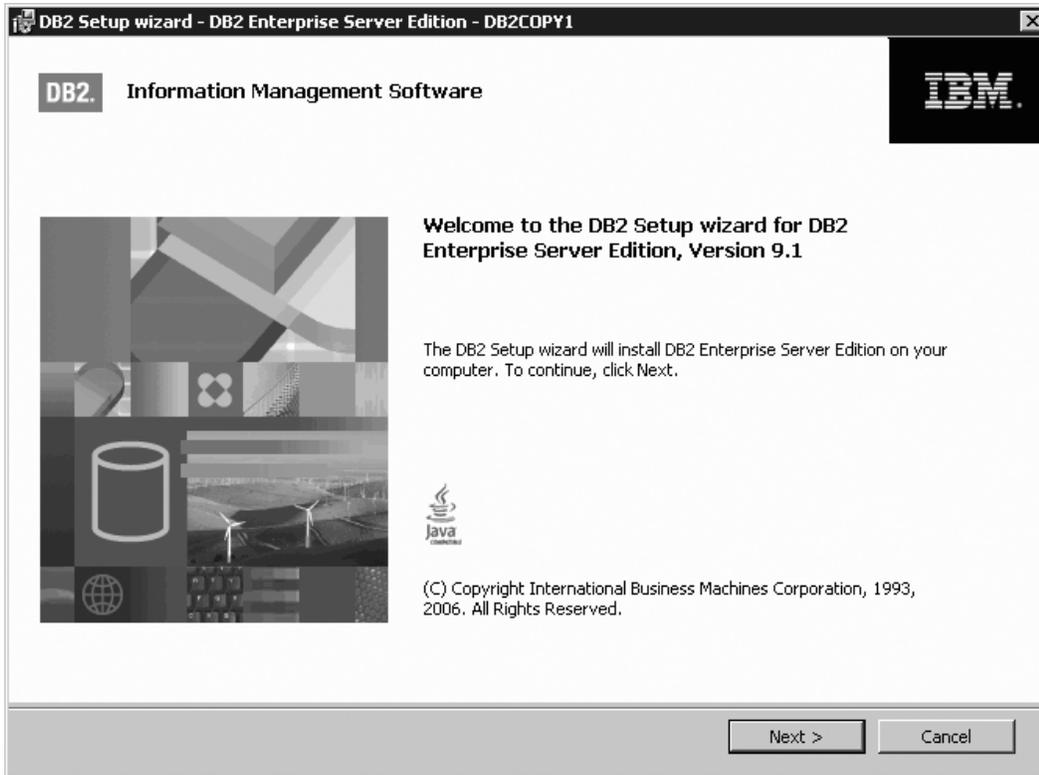


Figure 222. DB2 Setup wizard

5. Click **Next**. The "Software License Agreement" page opens.
6. On the "License Agreement" page:
 - a. After reviewing and agreeing to the license text, select the **I accept the terms in the license agreement** radio button:

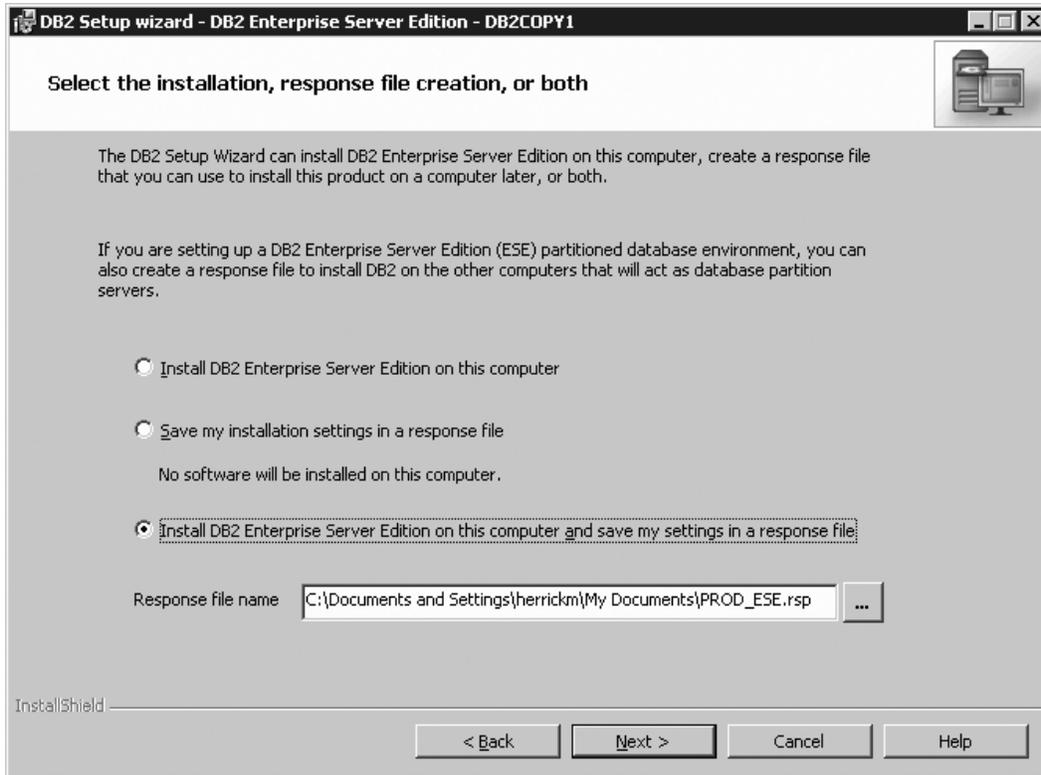


Figure 225. DB2 Setup wizard - Select the installation, response file creation, or both page

- c. Click **Next**. The "Select the features to install" page opens.

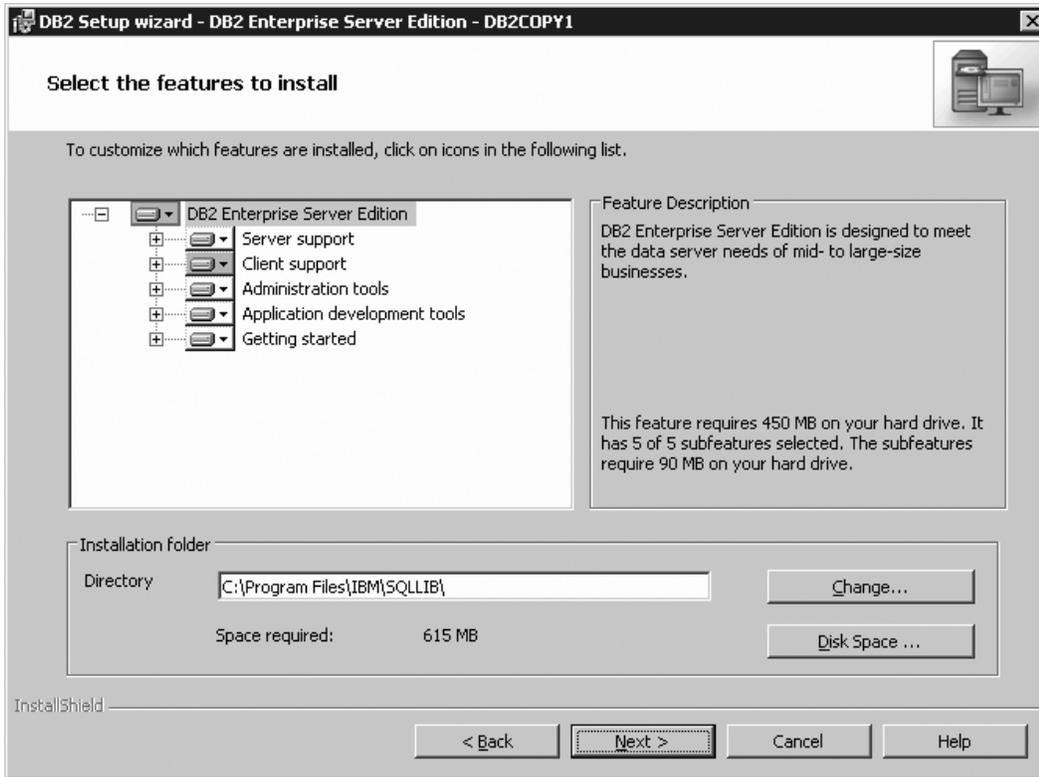


Figure 226. DB2 Setup wizard - Select the features to install page

9. On the "Select the features to install" page:
 - a. Open the + beside **Server support**.
 - b. Deselect the **Connect support** feature. Left click on **Connect support** and select **This feature will not be available** from the pop-up menu.

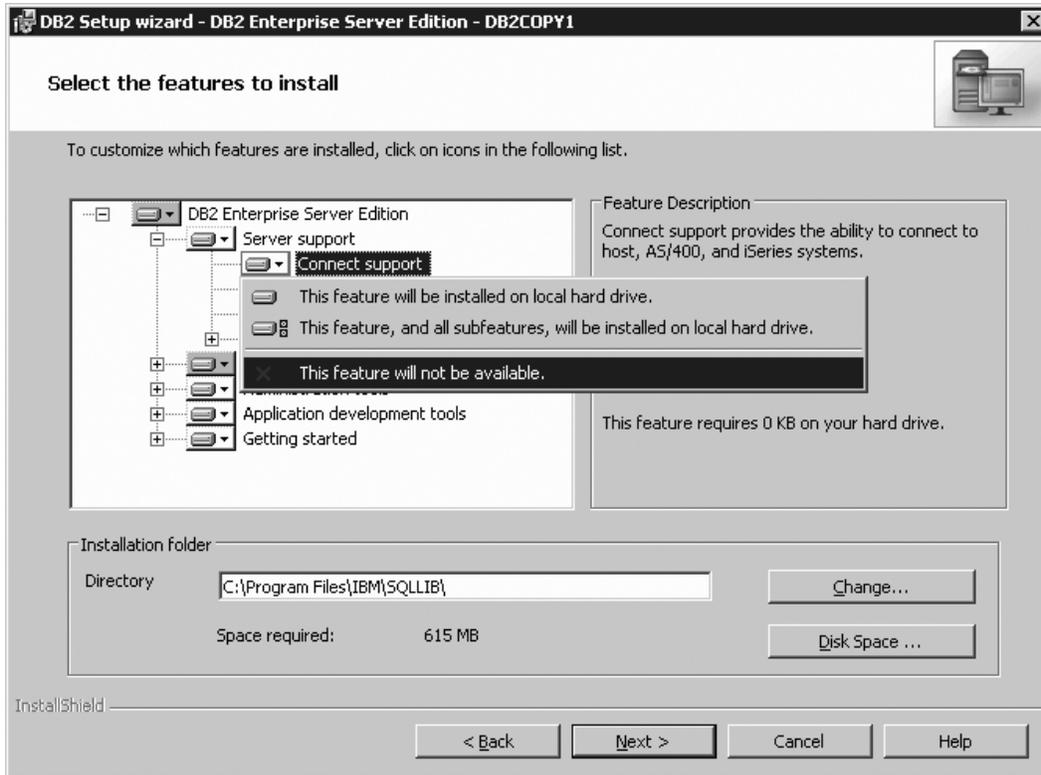


Figure 227. DB2 Setup wizard - DB2 Setup wizard - Select the features to install page; Connect support feature deselected for install

- c. Ensure that the following features under **Server support** are also deselected for installation:
 - **Satellite Control Server**
 - **Informix data source support**

After the **Server support** features are deselected, open the + beside **Communication protocols**, and deselect the **NetBIOS Listener** feature and the **Named Pipes Listener** feature.

Note: Do *not* deselect the **TCP/IP Listener** feature.

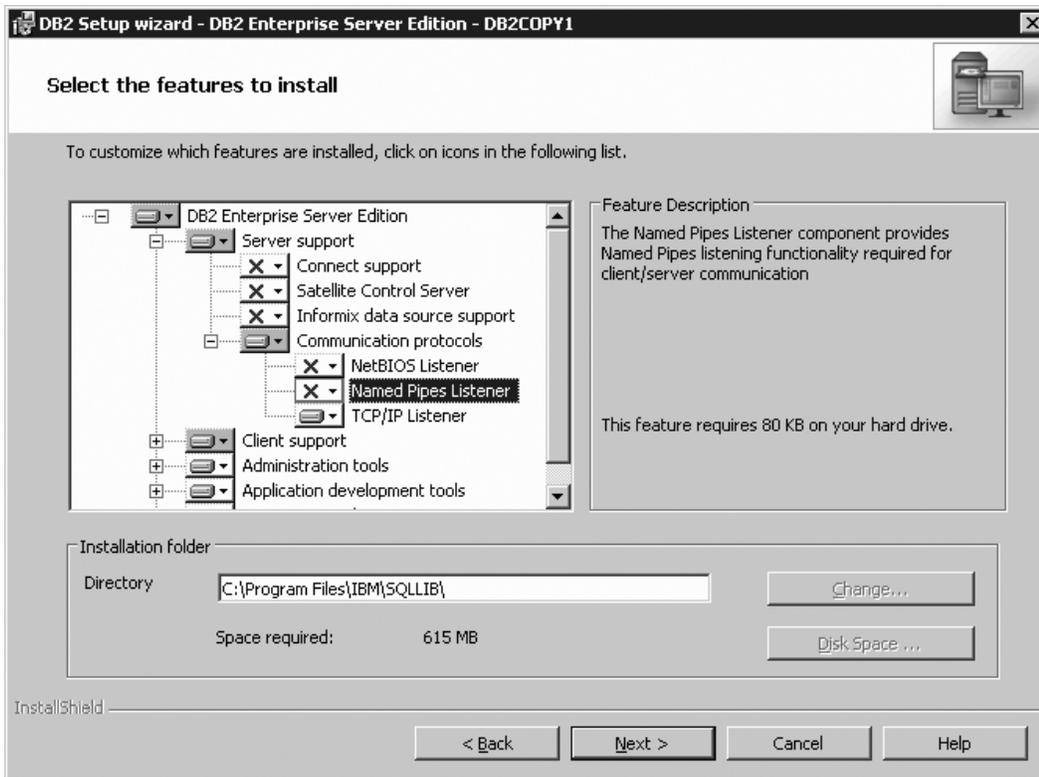


Figure 228. DB2 Setup wizard - Select the features to install page; features deselected under Server support

- d. Open the + beside **Client support**.
- e. Ensure that the following features are deselected:
 - **Satellite Synchronization**
 - **DB2 LDAP support**
- f. Open the + beside **Communication protocols**, and deselect the following features:
 - **NetBIOS**
 - **Named Pipes**

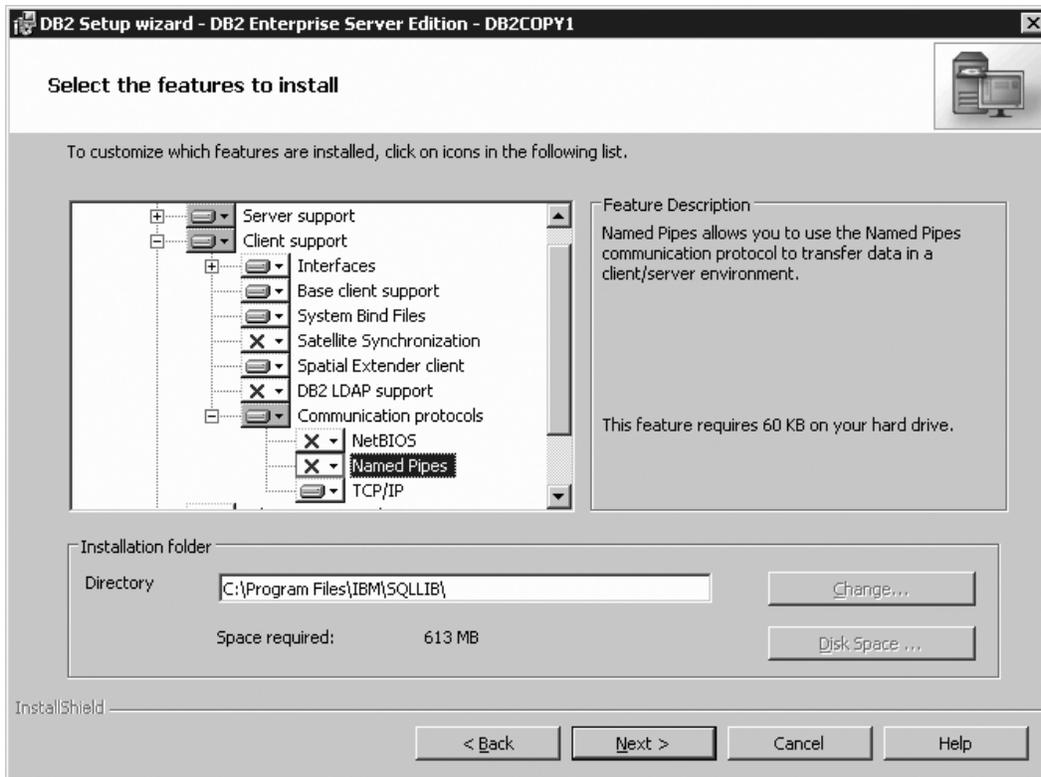


Figure 229. DB2 Setup wizard - Select the features to install page; Client support features deselected for install

g. Deselect **Administration tools**.

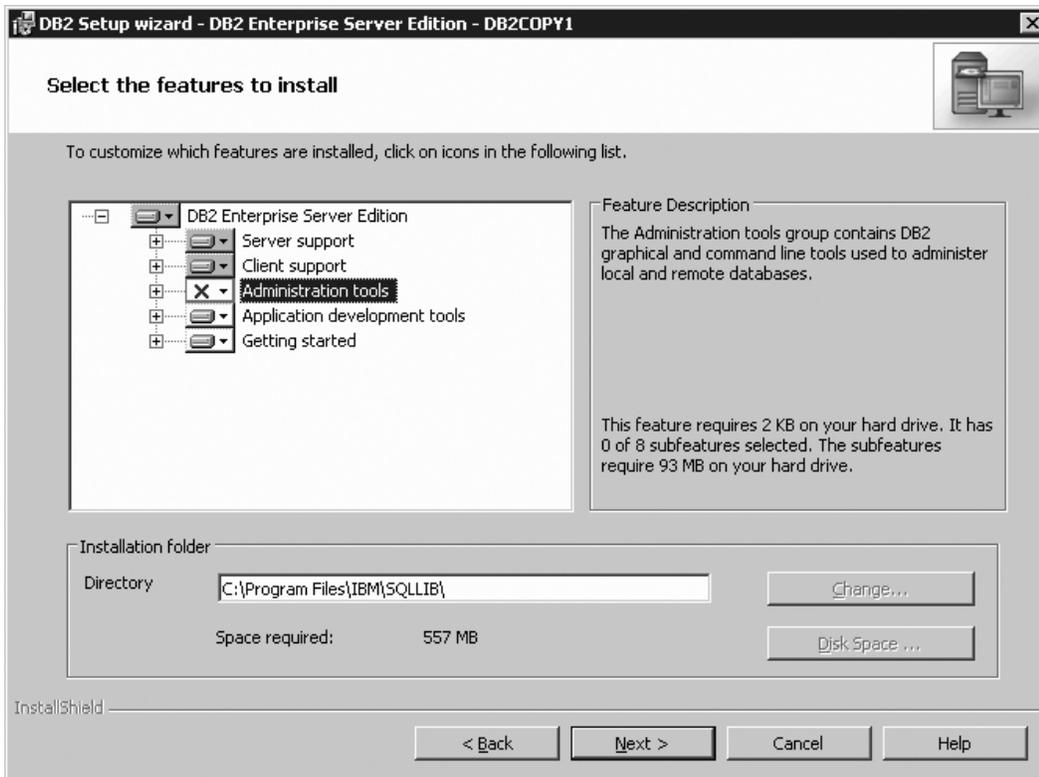


Figure 230. DB2 Setup wizard - Select the features to install page; Administration tools feature deselected for install

- h. Open the + beside **Getting started**.
- i. Ensure that the **First Steps** feature is deselected for installation.

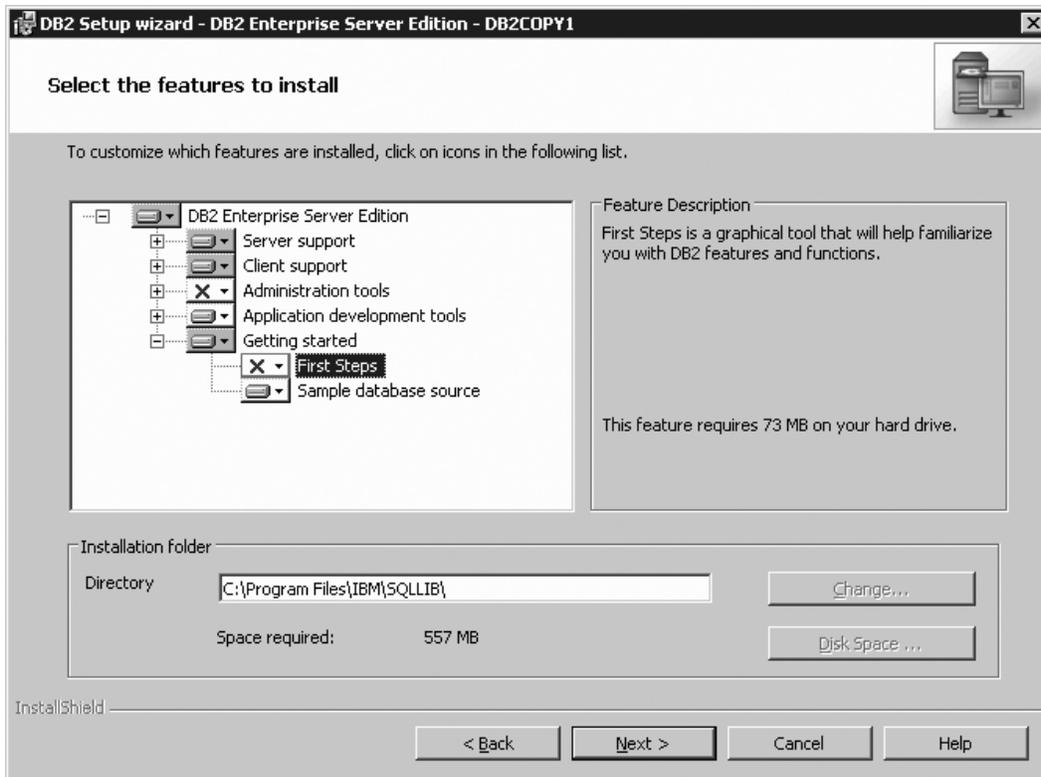


Figure 231. DB2 Setup wizard - Select the features to install page; First Steps feature deselected for installation

- j. Click **Next**. The "Select the languages to install" page opens.
10. On the "Select the languages to install" page, English is the only language support that is installed by default.

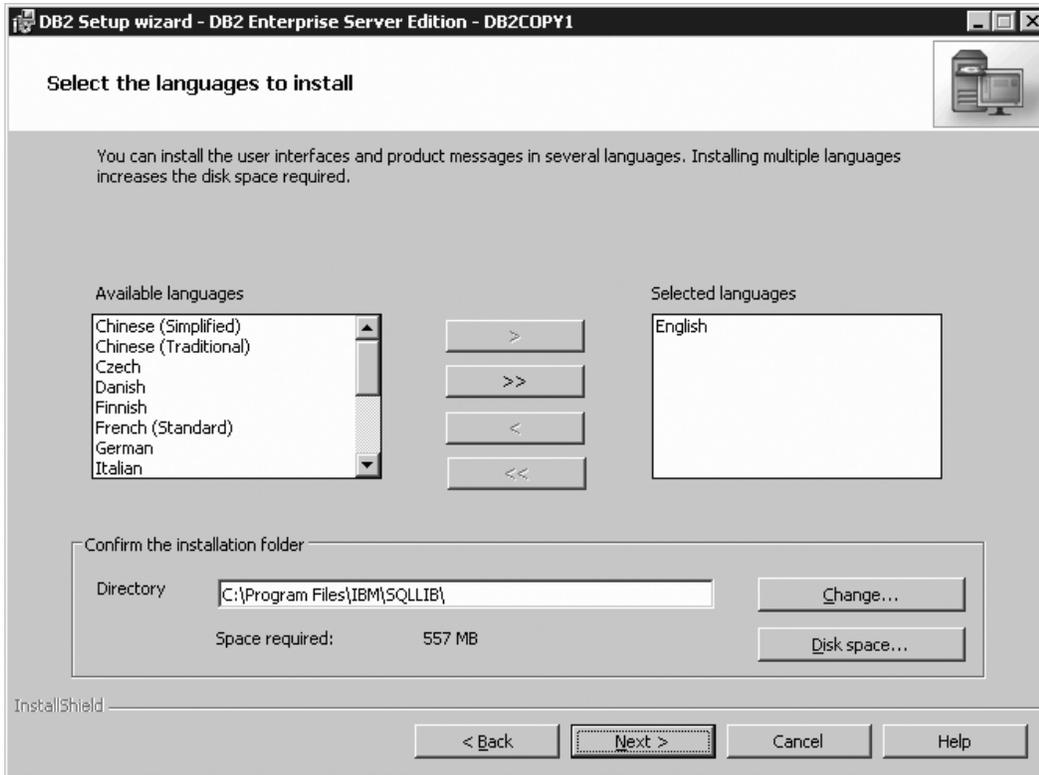


Figure 232. DB2 Setup wizard - Select the languages to install page; English language support selected for installation

11. Click Next. The "Set the DB2 copy name" page opens.

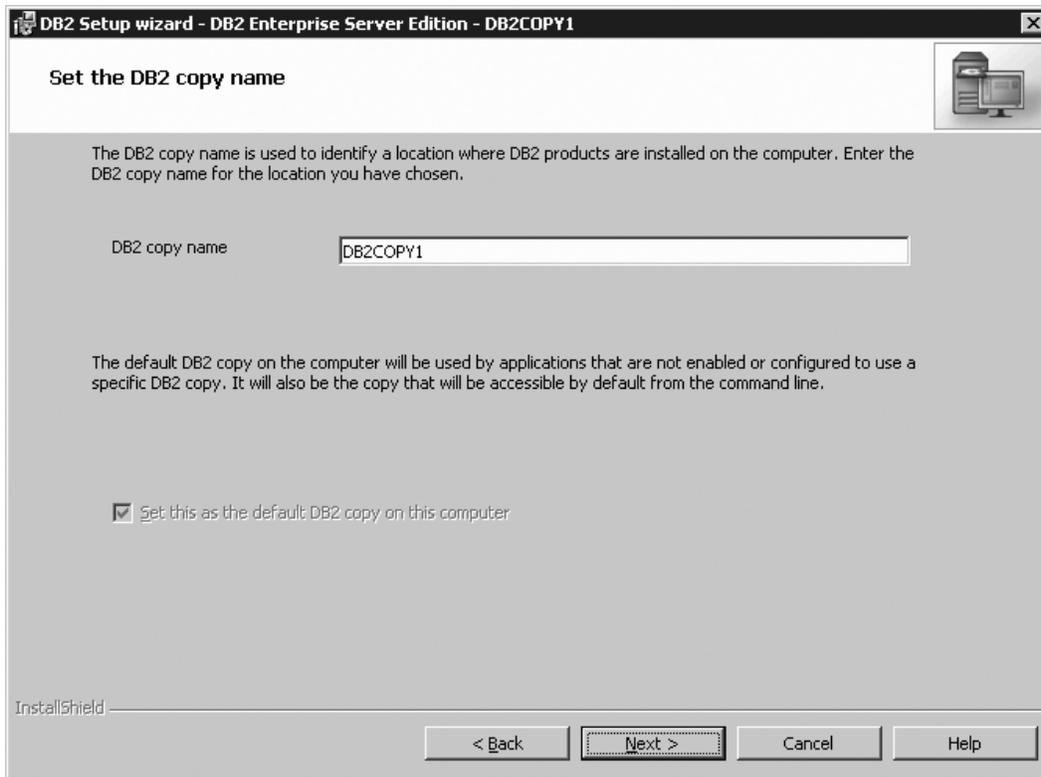


Figure 233. DB2 Setup wizard - Set the DB2 copy name page

12. Click **Next**. The "Specify the location of the DB2 Information Center" page opens.
13. On the "Specify the location of the DB2 Information Center" page:
 - a. Ensure that the **On the IBM Web site** radio button is selected.

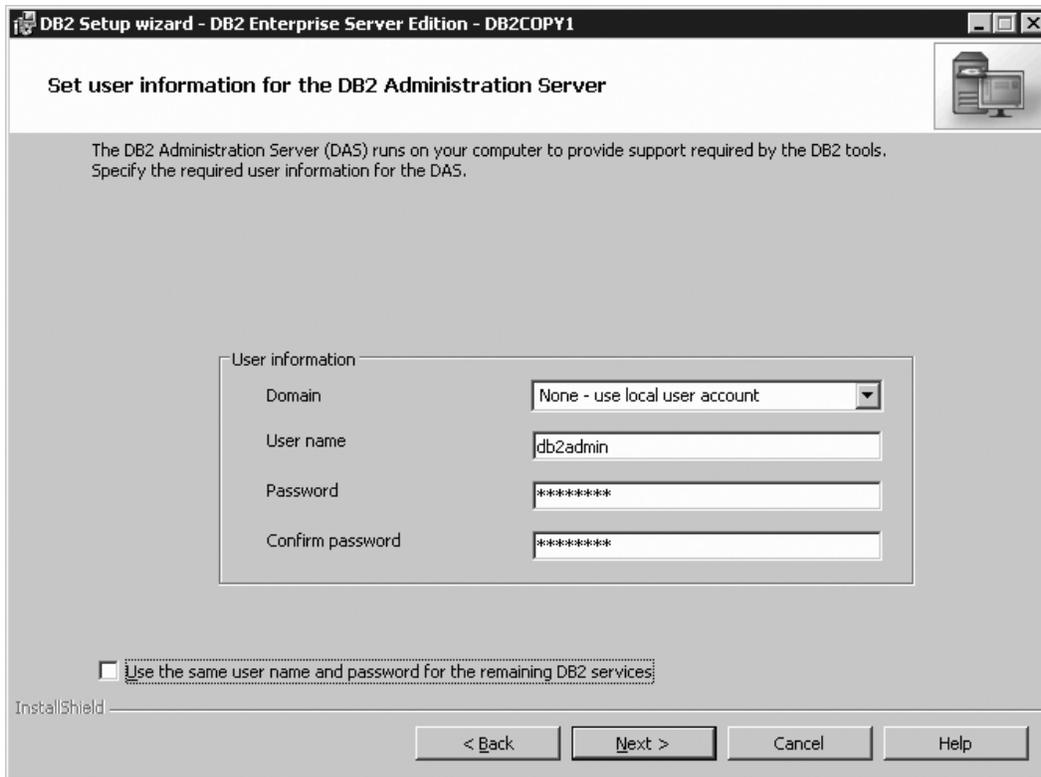


Figure 235. DB2 Setup wizard - Set user information for the DB2 Administration Server page

- f. Click **Next**. The "Set up a DB2 instance" page opens.
15. On the "Set up a DB2 instance" page:
 - a. Ensure that the **Create a DB2 instance** radio button is selected.

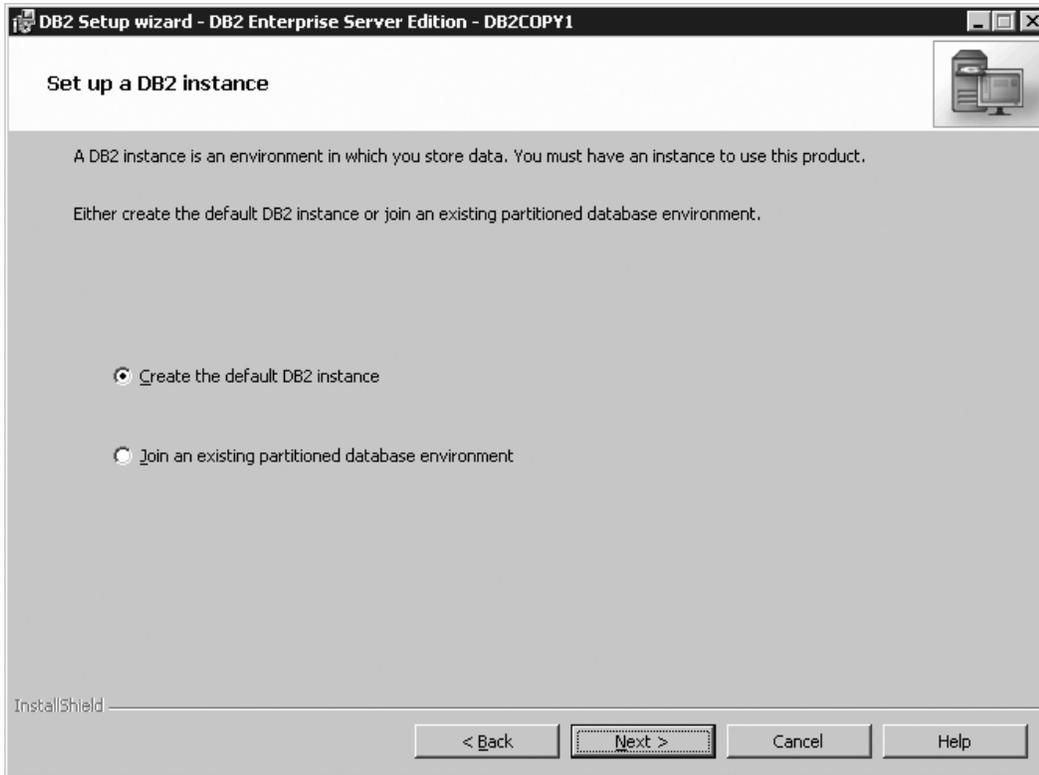


Figure 236. DB2 Setup wizard - Set up a DB2 instance page; Create a DB2 instance option selected

- b. Click **Next**. The "Set up partitioning options for the default DB2 instance" page opens.
16. On the "Set up partitioning options for the default DB2 instance" page:
 - a. Select the **Multiple partition instance** radio button.
 - b. Type 2 for the **Maximum logical partitions** field.

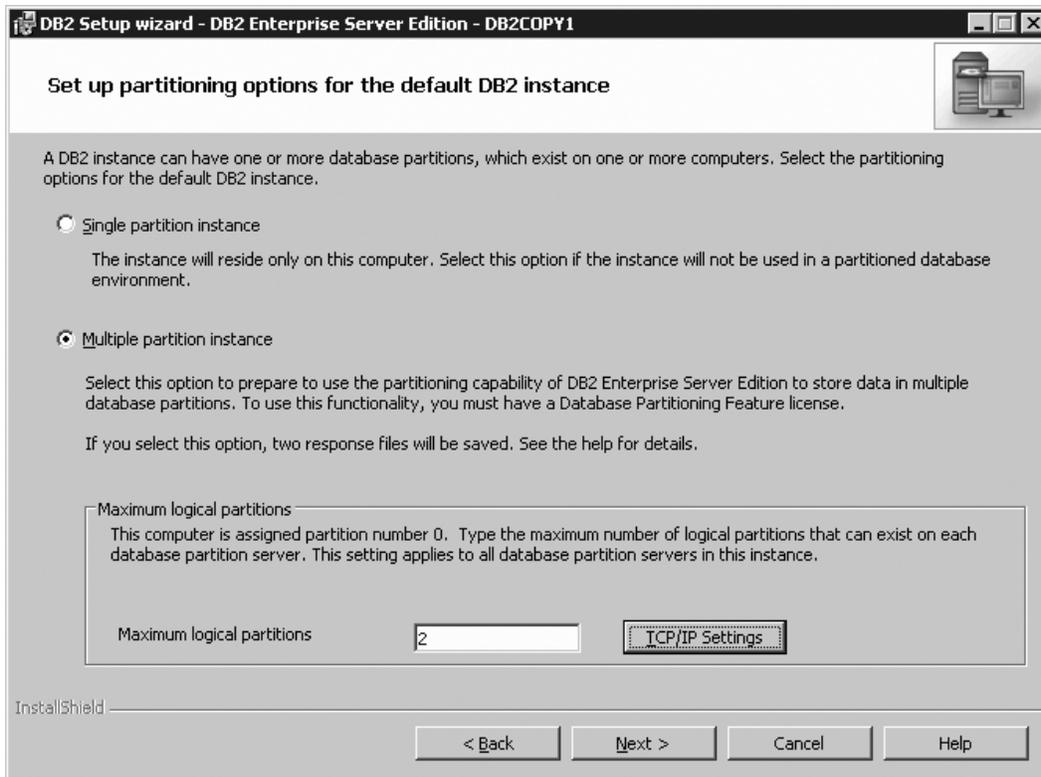


Figure 237. DB2 Setup wizard - Set up partitioning options for the DB2 instance page

- Note:** For the Common Criteria certification, an SMP configuration of two logical partitions on two computers is demonstrated. Depending on your requirements, it is possible to install one logical partition per computer, or more than two logical partitions per computer. Because a response file is used to install DB2 Enterprise Server Edition on all subsequent computers, the environment will be consistent across all computers that participate in the partitioned database environment.
- c. Click **Next**. The "Configure DB2 instances" window opens.

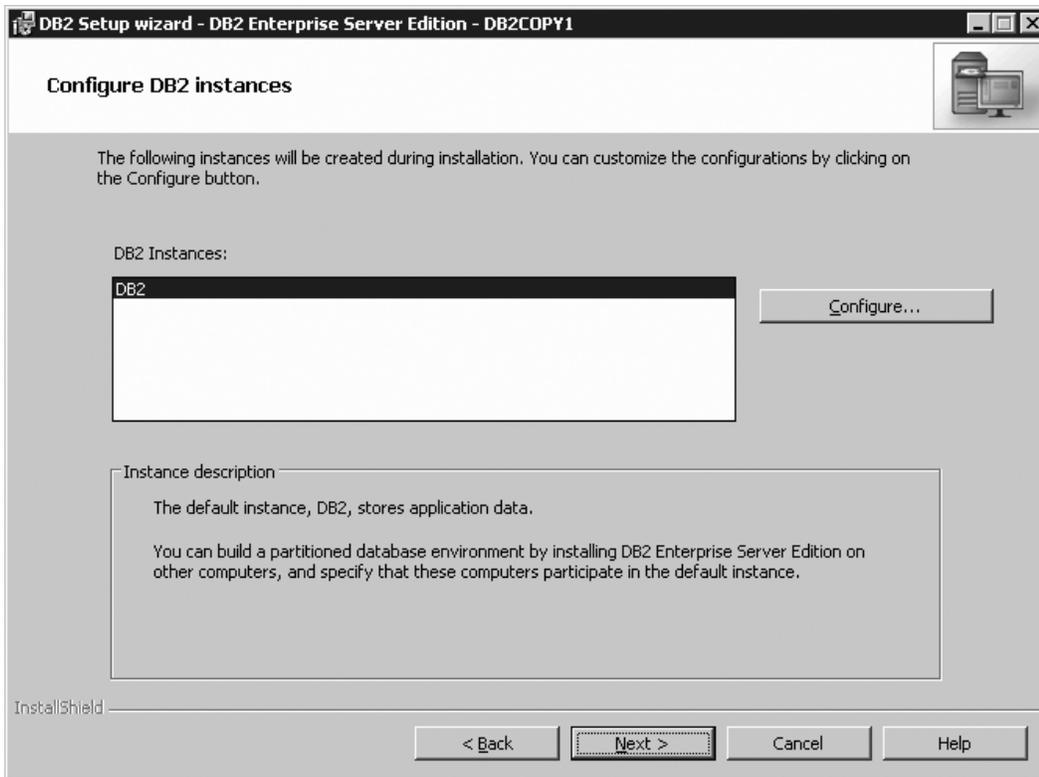


Figure 238. DB2 Setup wizard - Configure DB2 instances page

17. On the "Configure DB2 instances" window:
 - a. Click **Configure**. The "DB2 instance configuration" window opens.
 - b. On the "Startup" tab, ensure that the **Do not autostart the instance. The instance must be started manually** radio button is selected.

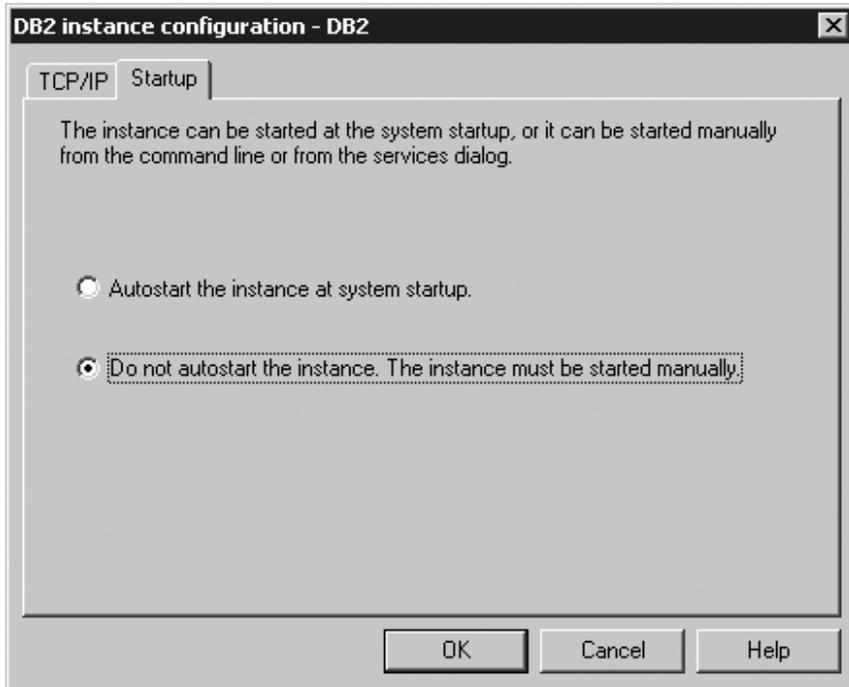


Figure 239. DB2 Setup wizard - DB2 instance configuration window

- c. Click **OK**. The "DB2 instance configuration" window closes.
 - d. Click **Next** on the "Configure DB2 instances" window. The "Set user information for the default DB2 instance" page opens.
 18. On the "Set user information for the default DB2 instance" page:
 - a. Select the domain of the user from the **Domain** drop-down list.
 - b. Type the user name for the DB2 Administration Server in the **User name** field.
 - c. Type the password for the user in the **Password** field.
 - d. Type the password again in the **Confirm password** field.

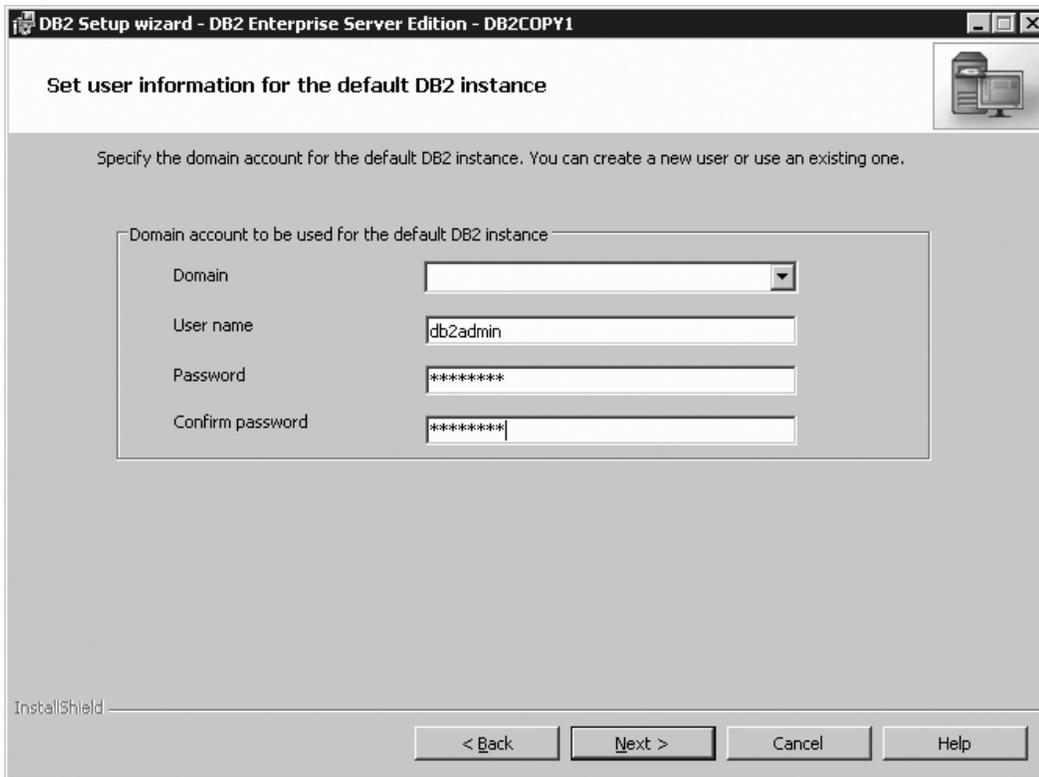


Figure 240. DB2 Setup wizard - Set user information for the default DB2 instance page

- e. Click **Next**. The "Prepare the DB2 tools catalog" page opens.
19. On the "Prepare the DB2 tools catalog" page:
 - a. Ensure that the **Prepare the DB2 tools catalog** check box is deselected.

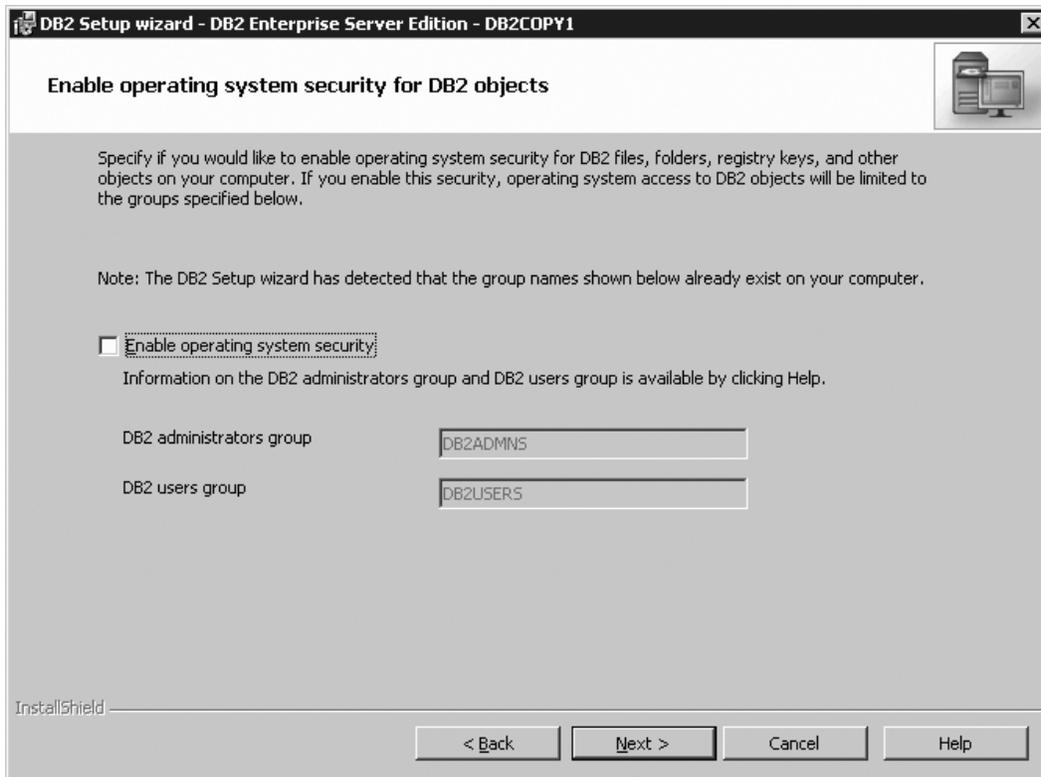


Figure 243. DB2 Setup wizard - Enable operating system security for DB2 objects page

- b. Click **Next**. The "Start copying files and create response files" page opens.

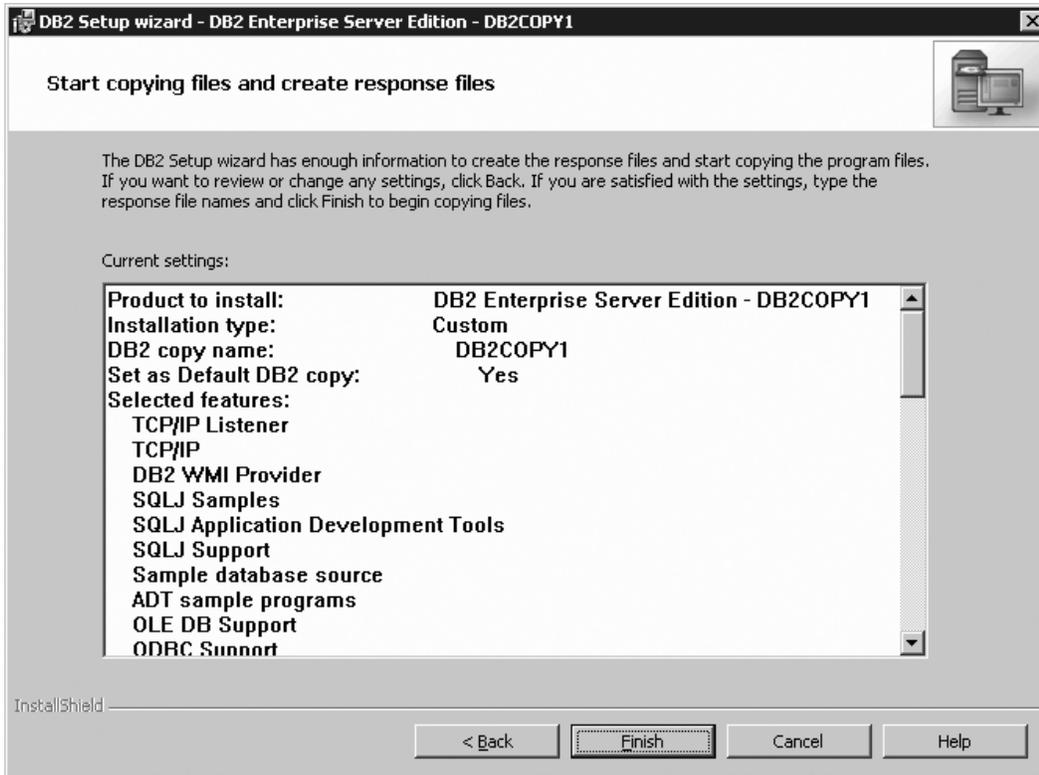


Figure 244. Installing DB2 Enterprise Server Edition page

22. On the "Start copying files and create response files" page, click **Finish** to begin installing DB2 on your computer.
The "Installing DB2 Enterprise Server Edition" page opens.

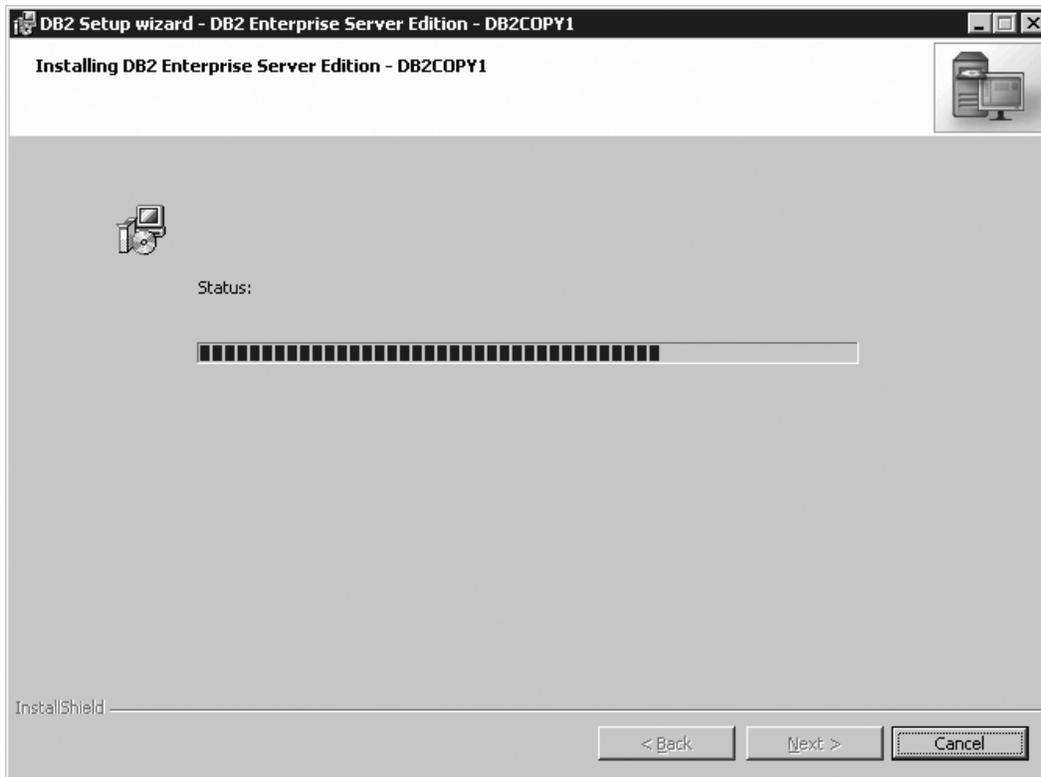


Figure 245. Installing DB2 Enterprise Server Edition page

When the installation completes, the "Setup Complete" page opens.

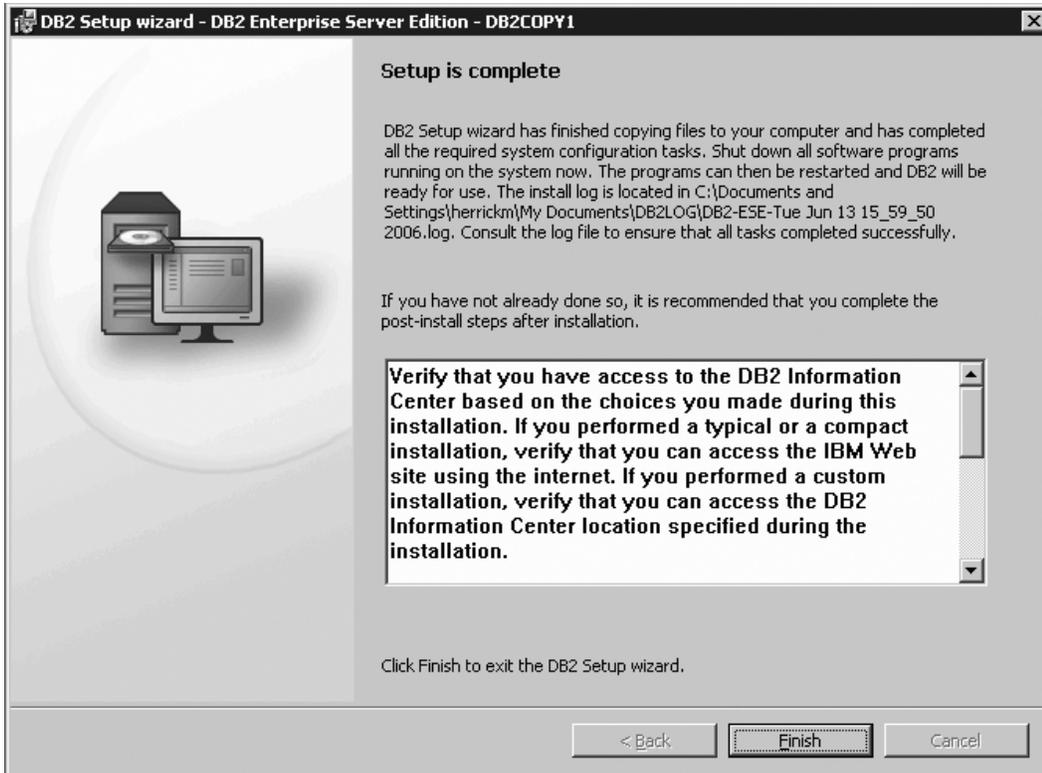


Figure 246. Setup Complete page

On the **Post-install steps** tab, note that the installation results in two response files being created in the installing user's My Documents directory: PROD_ESE.rsp and PROD_ESE_addpart.rsp. The response file PROD_ESE_addpart.rsp is used to finish installing the partitioned database environment.

Click **Finish** to exit from the installation GUI.

23. Copy the db2ese_addpart.rsp file to the same directory as the setup.exe file on the second computer that you want to participate in the partitioned database environment. You can use FTP to accomplish this task, or any other tool that permits you to transfer files. Repeat this step for every computer that you want to participate in the environment.
24. On the second computer that you want to participate in the environment:
 - a. Double click on the v9fp1_winx64_ese.exe file. Windows will prompt you with a default temporary directory in which the files will be unzipped.
 - b. Optional: To select a directory other than the default directory, use the **Browse** button.
 - c. Click **Unzip** to unzip the files.
 - d. Change directories to the directory where you extracted the files.
 - e. Run the response file using the setup -u command as described in the topic "Setting up a partitioned database environment."

Note: The temporary files will be automatically deleted when the response file installation completes.

25. If you are installing the DB2 product on more than two computers, repeat steps 24a, 24b, 24c, 24d, and 24e for every other computer that you want to participate in the environment.

Note: To avoid repeating these steps, you can also net use to the machine and drive where the DB2 install image was unzipped, and install. Using this method, you only have to unzip the install image once, instead of downloading and unzipping the image on every computer.

26. During DB2 installation, the DB2 Setup wizard or response file installation creates one partition on each computer that participates the partitioned database environment. If you want to set up additional logical partitions on a computer, you need to run the `db2ncrt` command to create each new partition. In this example, two logical partitions are to be created on each of the two computers used in the environment. Therefore, the `db2ncrt` must be run once on each computer. On the instance-owning computer, open **START->Program Files->IBM DB2->DBCOPY1->Command line tools->Command window**, then issue the following command:

```
db2ncrt /n:2 /u:domain_name\username,password /p:1
```

Where:

- The *n* parameter indicates a unique partition number. The value 2 is used for the new logical partition on the instance-owning computer because partitions 0 and 1 were previously created (partition 0 was created by the DB2 Setup wizard on the instance-owning computer, while partition 1 was created by the response file installation on the second computer).
- The *domain_name\username* and *password* parameters are the domain, user ID, and password for the DB2 instance.
- The *p* parameter indicates the logical port number. Available logical ports on a computer usually begin at 0, and increase by 1. The value 0 would have been assigned to the partition created by the DB2 Setup wizard on the instance-owning computer; therefore the next available logical port is 1.

On the second computer that you want to participate in the environment, open **START->Program Files->IBM DB2->DBCOPY1->Command line tools->Command window**, then issue the following command:

```
db2ncrt /n:3 /u:username,password /p:1 /o:instance_owning_computer
```

When running `db2ncrt` on the second computer:

- Because the partition number must be unique, the next available value for the *n* parameter is 3.
- *username* and *password* are the user ID and password of a local administrator on the computer.
- *instance_owning_computer* is the computer on which you performed the DB2 installation using the DB2 setup wizard.

For more information about the `db2crt` command, see the *IBM DB2 Common Criteria Certification: Administration and User Documentation* book.

27. Activate the license files on every computer that you want to participate in the partitioned database environment. See the topic "Registering a DB2 product or feature license key using the `db2licm` command".

After DB2 Enterprise 9 is installed, see the topic on configuring DB2 to be Common Criteria compliant in the *IBM DB2 Common Criteria Certification: Administration and User Documentation* book.

Part 3. After DB2 server installation

Chapter 7. After you install

Verifying the installation

Verifying the installation using the command line processor (CLP)

You can verify the installation by creating a sample database and running SQL statements to retrieve sample data.

Prerequisites:

- The sample database component, found in the features selection, must be installed on your system and is included in a typical installation.
- You require a user with SYSADM authority.

Procedure:

To verify the installation:

1. Log on to the system as a user with SYSADM authority.
2. Start the database manager by entering the db2start command.
3. Enter the db2samp1 command to create the SAMPLE database.

This command may take a few minutes to process. There is no completion message; when the command prompt returns, the process is complete.

The SAMPLE database is automatically cataloged with the database alias SAMPLE when it is created.

4. Connect to the SAMPLE database, retrieve a list of all the employees that work in department 20, and reset the database connection. Enter the following commands from the command line processor (CLP):

```
connect to sample
"select * from staff where dept = 20"
connect reset
```

After you have verified the installation, you can remove the SAMPLE database to free up disk space. Enter the db2 drop database sample command to drop the SAMPLE database.

Related tasks:

- “Verifying the installation of DB2 servers using First Steps (Linux and Windows)” in *Quick Beginnings for DB2 Servers*

Verifying access to the registry on the instance-owning computer (Windows)

This step is only required if you are setting up a partitioned database environment.

After installing DB2 on a participating computer, you should verify that you have access to the registry on the instance-owning computer. This verification step should be run from all participating computers.

Prerequisites:

You must have DB2 installed.

Procedure:

To verify access to the registry on the instance-owning computer:

1. From a command prompt, type the **regedit** command. The Registry Editor window opens.
2. Click the **Registry** menu item.
3. Select **Connect Network Registry**.
4. Type the name of the instance-owning computer in the **Computer name** field.

If the information is returned, then you have successfully verified that you have access to the registry on the instance-owning computer.

Related tasks:

- “Setting up a partitioned database environment” on page 55

Verifying a partitioned database server installation (Linux and UNIX)

To verify that your DB2 server installation was successful, you will create a sample database and run SQL commands to retrieve sample data and to verify that the data has been distributed to all participating database partition servers.

Prerequisites:

You have completed all of the installation steps.

Procedure:

To create the SAMPLE database:

1. Log on to the primary computer (ServerA) as the instance-owning user. In our installation example, db2inst1 is the instance-owning user.
2. Enter the db2samp1 command to create the SAMPLE database. By default, the sample database will be created in the instance-owner’s home directory. In our example /db2home/db2inst1/ is the instance owner’s home directory. The instance owner’s home directory is the default database path.

This command may take a few minutes to process. There is no completion message; when the command prompt returns, the process is complete.

The SAMPLE database is automatically cataloged with the database alias SAMPLE when it is created.

3. Start the database manager by entering the db2start command.
4. Enter the following DB2 commands from a DB2 command window to connect to the SAMPLE database, retrieve a list of all the employees that work in department 20:

```
db2 connect to sample
db2 "select * from staff where dept = 20"
```

5. To verify that data has been distributed across database partition servers, enter the following commands from a DB2 command window:

```
db2 select distinct dbpartitionnum(empno) from employee;
```

The output will list the database partitions used by the employee table. The specific output will depend on the number of database partitions in the database and the number of database partitions in the database partition group that is used by the tablespace where the employee table was created.

After you have verified the installation, you can remove the SAMPLE database to free up disk space. Enter the db2 drop database sample command to drop the SAMPLE database.

Related reference:

- “db2sampl - Create sample database command” in *Command Reference*

Verifying a partitioned database environment installation (Windows)

To verify that your DB2 server installation was successful, you will create a sample database and run SQL commands to retrieve sample data and to verify that the data has been distributed to all participating database partition servers.

Prerequisites:

You have completed all of the installation steps.

Procedure:

To create the SAMPLE database:

1. Log on to the primary computer (ServerA). as user with SYSADM authority.
2. Enter the db2sampl command to create the SAMPLE database.

This command may take a few minutes to process. There is no completion message; when the command prompt returns, the process is complete.

The SAMPLE database is automatically cataloged with the database alias SAMPLE when it is created.

3. Start the database manager by entering the db2start command.
4. Enter the following DB2 commands from a DB2 command window to connect to the SAMPLE database, retrieve a list of all the employees that work in department 20:

```
db2 connect to sample
db2 "select * from staff where dept = 20"
```

5. To verify that data has been distributed across database partition servers, enter the following commands from a DB2 command window:

```
select distinct dbpartitionnum(empno) from employee;
```

The output will list the database partitions used by the employee table. The specific output will depend on the number of database partitions in the database and the number of database partitions in the database partition group that is used by the tablespace where the employee table was created.

After you have verified the installation, you can remove the SAMPLE database to free up disk space. However, it is useful to keep the sample database, if you plan to make use of the sample applications.

Enter the db2 drop database sample command to drop the SAMPLE database.

Related tasks:

- “Setting up a partitioned database environment” on page 55

DB2 product licensing

DB2 product license files

Each DB2 product and feature has a license file associated with it. The license file is found on the associated activation CD supplied as a part of the product media. You should register the license file before using the DB2 product.

The management of licenses for DB2 products or features is done through the License Center within the Control Center, or, through the `db2licm` License Management Tool command.

Note: For a Common Criteria environment, the `db2licm` command is used.

To assist you in managing your licenses, a compliance report lists the compliance or noncompliance of DB2 features with your current product entitlement.

If you installed a DB2 product with a try and buy license and now want to upgrade to a full license, you do not need to reinstall the DB2 product. You simply upgrade your license. This is also true for upgrading from one license type to another, for example upgrading from a User license to a CPU license. For details see [Upgrading your DB2 license](#).

Related concepts:

- “License Center overview” in *Administration Guide: Implementation*
- “DB2 installation methods” on page 3

Related tasks:

- “Checking DB2 license compliance” on page 241
- “Registering a DB2 product or feature license key using the `db2licm` command” on page 240
- “Registering a DB2 product or feature license key using the License Center” in *Installation and Configuration Supplement*
- “Upgrading a Try and Buy license” in *Installation and Configuration Supplement*

Related reference:

- “`db2licm` - License management tool command” in *Command Reference*

Registering a DB2 product or feature license key using the `db2licm` command

You should register a DB2 product or feature license key on each computer where the DB2 product or feature is installed. For more information on these product options, see the DB2 Version 9 packaging information on the web.

Note: In a partitioned database environment, you must activate the license files on every computer that participates in the environment.

Procedure:

To register a DB2 product or feature license key as the instance owner:

1. Log on as the instance owner.
2. Register the DB2 license with the appropriate command:
 - For Linux and UNIX operating systems:

```
db2instance_path/db2licm -a filename.lic
```
 - For Windows operating systems, open **START->Program Files->IBM DB2->DBCOPY1->Command line tools->Command window**, then issue the following command:

```
db2licm -a filename.lic
```

where *db2instance_path* is where the DB2 instance was created and *filename* is the full pathname and filename for the license file that corresponds to the product you have purchased.

Related concepts:

- “License management” in *Administration Guide: Implementation*

Related tasks:

- “Checking DB2 license compliance” on page 241
- “Registering a DB2 product or feature license key using the License Center” in *Installation and Configuration Supplement*

Related reference:

- “DB2 product license files” on page 240

Checking DB2 license compliance

Each DB2 product and feature has a license file associated with it. The license file should be registered before using the DB2 product or feature. The License Center lists product information on the main panel. DB2 products that do not have the license registered show the License Type as not registered.

To verify license compliance of DB2 features, you can generate a compliance report. The compliance report lists DB2 features out of compliance with your current product entitlement. Each DB2 feature status is listed as either:

- In compliance: indicating no violations are detected
- Violation: indicating the feature is not licensed and has been used.

Note: Some DB2 functionality is only available under license when purchased as part of a DB2 feature.

You can generate a compliance report using the License Center or the `db2licm` command.

Note: In a Common Criteria environment, only the `db2licm` command is supported.

Procedure:

To generate the compliance report from the License Center, select License→Generate Compliance Report.

To generate compliance report using the `db2licm` command, enter the following command from the command line:

- For Linux and UNIX operating systems:
`db2instance_path/adm/db2licm -g filename`
- For Windows operating systems:
`db2instance_path\adm\db2licm -g filename`

where

- `db2instance_path` is where the DB2 instance was created.
- `filename` specifies the file name where output is to be stored.

DB2 features showing a violation must have the license key registered using either the License Center or the `db2licm` command. See the related links for details.

Related concepts:

- “License Center overview” in *Administration Guide: Implementation*

Related tasks:

- “Registering a DB2 product or feature license key using the License Center” in *Installation and Configuration Supplement*
- “Registering a DB2 product or feature license key using the `db2licm` command” on page 240

Related reference:

- “DB2 product license files” on page 240
- “`db2licm` - License management tool command” in *Command Reference*

Password rules

When choosing a password, be aware that:

- On UNIX, your password can be a maximum of eight (8) characters.
- On Windows, your password can be a maximum of fourteen (14) characters.

Some operating systems may have more password rules, such as minimum length and simplicity. See the appropriate operating system documentation.

Related concepts:

- “General naming rules” in *Administration Guide: Implementation*

Adding your user ID to the DB2ADMNS and DB2USERS user groups (Windows)

After successfully completing a DB2 installation, you now have to add users to the DB2ADMNS or the DB2USERS groups to give them access to your DB2 product. The DB2 installer creates two new groups. You can either use a new name or accept the default names. The default group names are DB2ADMNS and DB2USERS.

Prerequisites:

- You must have installed a DB2 product.

- You must have selected the Enable operating system security check box on the Enable operating system security for DB2 object panel during the installation of your DB2 product.

Procedure:

To add users to the appropriate group:

1. Launch the **Computer Management** tool. Click **Start** and **Select -> Settings -> Control Panel -> Administrative Tools -> Computer Management**.
2. Select **Local Users and Groups**.
3. Select **Users**.
4. Select the user you want to add.
5. Click **Properties**.
6. Click the **Member Of** tab.
7. Click **Add**.
8. Select the appropriate group.
9. Click **OK**.

If you did the install and chose not to enable the new security feature you can still do so post-install by running the db2extsec.exe command.

Once you enable this security feature using the db2extsec.exe command, you have two options for backing out:

1. Run the db2extsec.exe command again immediately **WITHOUT** making any additional changes to the system. If there have been any changes at all made to the system you must use option 2.
2. Add the Everyone group to the DB2ADMNS and DB2USERS groups.

Related concepts:

- “Extended Windows security using DB2ADMNS and DB2USERS groups” in *Administration Guide: Implementation*

Related reference:

- “Required user accounts for installation of DB2 server products (Windows)” on page 12
- “db2extsec - Set permissions for DB2 objects command” in *Command Reference*

DB2 node configuration file - db2nodes.cfg

This topic provides information about the format of the node configuration file (db2nodes.cfg). The db2nodes.cfg file is used to define the database partition servers that participate in a DB2 instance. The db2nodes.cfg file is also used to specify the IP address or host name of a high-speed interconnect, if you want to use a high-speed interconnect for database partition server communication.

The format of the db2nodes.cfg file is as follows:

```
nodenumber hostname logicalport netname resourcesetname
```

nodenumber, hostname, logicalport, netname, and resourcesetname are defined in the following section.

The format of the db2nodes.cfg file on Windows is different than the same file on UNIX. On Windows, the column format is:

```
nodenumber hostname computername logicalport netname resourcesetname
```

nodenumber A unique number, between 0 and 999, that identifies a database partition server in a partitioned database system.

To scale your partitioned database system, you add an entry for each database partition server to the db2nodes.cfg file. The *nodenumber* value that you select for additional database partition servers must be in ascending order, however, gaps can exist in this sequence. You can choose to put a gap between the *nodenumber* values if you plan to add logical partition servers and wish to keep the nodes logically grouped in this file.

This entry is required.

hostname The TCP/IP host name of the database partition server for use by the FCM.

This entry is required.

logicalport Specifies the logical port number for the database partition server. This field is used to specify a particular database partition server on a workstation that is running logical database partition servers.

DB2 reserves a port range (for example, 60000 - 60003) in the etc/services file for inter-partition communications at the time of installation. This logicalport field in db2nodes.cfg specifies which port in that range you want to assign to a particular logical partition server.

If there is no entry for this field, the default is 0. However, if you add an entry for the *netname* field, you must enter a number for the *logicalport* field.

If you are using logical database partitions, the *logicalport* value you specify *must* start at 0 and continue in ascending order (for example, 0,1,2).

Furthermore, if you specify a *logicalport* entry for one database partition server, you must specify a *logicalport* for each database partition server listed in your db2nodes.cfg file.

This field is optional only if you are *not* using logical database partitions or a high speed interconnect.

netname Specifies the host name or the IP address of the high speed interconnect for FCM communication.

If an entry is specified for this field, all communication between database partition servers (except for communications as a result of the db2start, db2stop, and db2_all commands) is handled through the high speed interconnect.

This parameter is required only if you are using a high speed interconnect for database partition communications.

resourcesetname

The resourcesetname defines the operating system resource that the node should be started in. The resourcesetname is for process affinity support, used for MLNs, provided with a string type field formerly known as quadname.

This parameter is only supported on AIX and Solaris Operating Environment.

On AIX 5.2, this concept is known as "resource sets" and on Solaris Operating Environment it is called "projects". Refer to your operating systems documentation for more information on resource management.

On Windows operating systems, process affinity for a logical node can be defined through the db2processor registry variable. See the related links section for more information on system environment variables.

The netname parameter must be specified if the resourcesetname parameter is used.

Example configurations:

Use the following example configurations to determine the appropriate configuration for your environment.

One computer, four database partition servers

If you are not using a clustered environment and want to have four database partition servers on one physical workstation called ServerA, update the db2nodes.cfg file as follows:

0	ServerA	0
1	ServerA	1
2	ServerA	2
3	ServerA	3

Two computers, one database partition server per computer

If you want your partitioned database system to contain two physical workstations, called ServerA and ServerB, update the db2nodes.cfg file as follows:

0	ServerA	0
1	ServerB	0

Two computers, three database partition server on one computer

If you want your partitioned database system to contain two physical workstations, called ServerA and ServerB, and ServerA is running 3 database partition servers, update the db2nodes.cfg file as follows:

4	ServerA	0
6	ServerA	1
8	ServerA	2
9	ServerB	0

Two computers, three database partition servers with high speed switches

If you want your partitioned database system to contain two computers, called ServerA and ServerB (with ServerB running two database partition servers), and use a high speed interconnect called switch1 and switch2, update the db2nodes.cfg file as follows:

0	ServerA	0	switch1
1	ServerB	0	switch2
2	ServerB	1	switch2

Examples using resourcename:

These restrictions apply to the following examples:

- This example shows the usage of resourcename when there is no high speed interconnect in the configuration.

- The netname is fourth column and a hostname also can be specified on that column where there is no switch name and you want to use resourcename. The fifth parameter is resourcename if it is defined. The resource group specification can only show as the fifth column in the db2nodes.cfg file. This means that for you to specify a resource group, you must also enter a fourth column. The fourth column is intended for a high speed switch.
- If you do not have a high speed switch or you do not want to use it, you must then enter the hostname (same as the second column). In other words, the DB2 database management system does not support column gaps (or interchanging them) in the db2nodes.cfg files. This restriction already applies to the first three columns, and now it applies to all five columns.

AIX example:

Here is an example of how to set up the resource set for AIX 5.2.

In this example, there is one physical node with 32 processors and 8 logical database partitions (MLNs). This example shows how to provide process affinity to each MLN.

1. Define resource sets in /etc/rset:

```
DB2/MLN1:
  owner      = db2inst1
  group      = system
  perm       = rwr-r-
  resources  = sys/cpu.00000,sys/cpu.00001,sys/cpu.00002,sys/cpu.00003
```

```
DB2/MLN2:
  owner      = db2inst1
  group      = system
  perm       = rwr-r-
  resources  = sys/cpu.00004,sys/cpu.00005,sys/cpu.00006,sys/cpu.00007
```

```
DB2/MLN3:
  owner      = db2inst1
  group      = system
  perm       = rwr-r-
  resources  = sys/cpu.00008,sys/cpu.00009,sys/cpu.00010,sys/cpu.00011
```

```
DB2/MLN4:
  owner      = db2inst1
  group      = system
  perm       = rwr-r-
  resources  = sys/cpu.00012,sys/cpu.00013,sys/cpu.00014,sys/cpu.00015
```

```
DB2/MLN5:
  owner      = db2inst1
  group      = system
  perm       = rwr-r-
  resources  = sys/cpu.00016,sys/cpu.00017,sys/cpu.00018,sys/cpu.00019
```

```
DB2/MLN6:
  owner      = db2inst1
  group      = system
  perm       = rwr-r-
  resources  = sys/cpu.00020,sys/cpu.00021,sys/cpu.00022,sys/cpu.00023
```

```
DB2/MLN7:
  owner      = db2inst1
  group      = system
  perm       = rwr-r-
  resources  = sys/cpu.00024,sys/cpu.00025,sys/cpu.00026,sys/cpu.00027
```

```

DB2/MLN8:
  owner    = db2inst1
  group    = system
  perm     = rwr-r-
  resources = sys/cpu.00028,sys/cpu.00029,sys/cpu.00030,sys/cpu.00031

```

2. Enable memory affinity by typing the following command: `vmo -p -o memory_affinity=1`.

3. Give instance permissions to use resource sets:

```

chuser capabilities=
  CAP_BYPASS_RAC_VMM,CAP_PROPAGATE,CAP_NUMA_ATTACH db2inst1

```

4. Add the resource set name as the fifth column in `db2nodes.cfg`:

```

1 regatta 0 regatta DB2/MLN1
2 regatta 1 regatta DB2/MLN2
3 regatta 2 regatta DB2/MLN3
4 regatta 3 regatta DB2/MLN4
5 regatta 4 regatta DB2/MLN5
6 regatta 5 regatta DB2/MLN6
7 regatta 6 regatta DB2/MLN7
8 regatta 7 regatta DB2/MLN8

```

Linux example:

On Linux operating systems, the `resourcesetname` column defines a number that corresponds to a Non-Uniform Memory Access (NUMA) node on the system. The `numactl` system utility must be available in addition to a 2.6 kernel with NUMA policy support. Refer to the man page for `numactl` for more information about NUMA support on Linux operating systems.

This example shows how to set up a four node NUMA computer with each logical node associated with a NUMA node.

1. Ensure that NUMA capabilities exist on your system.
2. Issue the following command:

```
$ numactl --hardware
```

Output similar to the following displays:

```

available: 4 nodes (0-3)
node 0 size: 1901 MB
node 0 free: 1457 MB
node 1 size: 1910 MB
node 1 free: 1841 MB
node 2 size: 1910 MB
node 2 free: 1851 MB
node 3 size: 1905 MB
node 3 free: 1796 MB

```

3. In this example, there are four NUMA nodes on the system. Edit the `db2nodes.cfg` file as follows to associate each Multiple Logical Node (MLN) with a NUMA node on the system:

```

0 hostname 0 hostname 0
1 hostname 1 hostname 1
2 hostname 2 hostname 2
3 hostname 3 hostname 3

```

Solaris Operating Environment example:

Here is an example of how to set up the project for Solaris Version 9.

In this example, we have 1 physical node with 8 processors: one CPU will be used for the default project, three (3) CPUs will be used by the Application Server, and four (4) CPUs for DB2. The instance name is db2inst1.

1. Create a resource pool configuration file using an editor. For this example, the file will be called pool.db2. Here's the content:

```
create system hostname
create pset pset_default (uint pset.min = 1)
create pset db0_pset (uint pset.min = 1; uint pset.max = 1)
create pset db1_pset (uint pset.min = 1; uint pset.max = 1)
create pset db2_pset (uint pset.min = 1; uint pset.max = 1)
create pset db3_pset (uint pset.min = 1; uint pset.max = 1)
create pset appsrv_pset (uint pset.min = 3; uint pset.max = 3)
create pool pool_default (string pool.scheduler="TS";
    boolean pool.default = true)
create pool db0_pool (string pool.scheduler="TS")
create pool db1_pool (string pool.scheduler="TS")
create pool db2_pool (string pool.scheduler="TS")
create pool db3_pool (string pool.scheduler="TS")
create pool appsrv_pool (string pool.scheduler="TS")
associate pool pool_default (pset pset_default)
associate pool db0_pool (pset db0_pset)
associate pool db1_pool (pset db1_pset)
associate pool db2_pool (pset db2_pset)
associate pool db3_pool (pset db3_pset)
associate pool appsrv_pool (pset appsrv_pset)
```

2. Edit the /etc/project file to add the DB2 projects and appsrv project as follows:

```
system:0::::
user.root:1::::
noproject:2::::
default:3::::
group.staff:10::::
appsrv:4000:App Serv project:root::project.pool=appsrv_pool
db2proj0:5000:DB2 Node 0 project:db2inst1,root::project.pool=db0_pool
db2proj1:5001:DB2 Node 1 project:db2inst1,root::project.pool=db1_pool
db2proj2:5002:DB2 Node 2 project:db2inst1,root::project.pool=db2_pool
db2proj3:5003:DB2 Node 3 project:db2inst1,root::project.pool=db3_pool
```

3. Create the resource pool: # poolcfg -f pool.db2.
4. Activate the resource pool: # pooladm -c
5. Add the project name as the fifth column in db2nodes.cfg file:

```
0 hostname 0 hostname db2proj0
1 hostname 1 hostname db2proj1
2 hostname 2 hostname db2proj2
3 hostname 3 hostname db2proj3
```

Related tasks:

- "Updating the node configuration file (Linux and UNIX)" on page 248
- "Verifying port range availability on participating computers (Linux and UNIX)" on page 39

Related reference:

- "System environment variables" in *Performance Guide*

Updating the node configuration file (Linux and UNIX)

The node configuration file (db2nodes.cfg), located in the instance owner's home directory, contains configuration information that tells DB2 which servers participate in an instance of the partitioned database environment. A db2nodes.cfg file exists for each instance in a partitioned database environment.

The db2nodes.cfg file must contain one entry for each server participating in the instance. When you create an instance, the db2nodes.cfg file is automatically created and an entry for the instance-owning server is added.

For example, when you created the DB2 instance using the DB2 Setup wizard, on the instance-owning server ServerA, the db2nodes.cfg file is updated as follows:

```
0 ServerA 0
```

This task provides steps for updating the db2nodes.cfg file to include entries for participating computers.

Prerequisites:

- The DB2 application must be installed on all participating computers.
- A DB2 instance must exist on the primary computer.
- You must be a user with SYSADM authority.
- If you plan to use a high speed switch for communication between database partition servers or if your partitioned configuration will have multiple logical partitions, review the *DB2 node configuration file* topic for configuration examples and information about file format of db2nodes.cfg.

Restrictions:

The hostnames used in the steps of the Procedure section must be fully qualified hostnames.

Procedure:

To update the db2nodes.cfg file:

1. Log on as the instance owner (in our example, db2inst1 is the instance owner).
2. Ensure that the DB2 instance is stopped by entering:

```
INSTHOME/sqllib/adm/db2stop
```

where *INSTHOME* is the home directory of the instance owner (the db2nodes.cfg file is locked when the instance is running and can only be edited when the instance is stopped).

For example, if your instance home directory is /db2home/db2inst1, enter the following command:

```
/db2home/db2inst1/sqllib/adm/db2stop
```

3. Add an entry to the .rhosts file for each DB2 instance. Update the file by adding the following:

```
<hostname> <db2instance>
```

where <hostname> is the TCP/IP host name of the database server and <db2instance> is the name of the instance you use to access the database server.

4. Add an entry to the db2nodes.cfg file of each participating server. When you first view the db2nodes.cfg file, it should contain an entry similar to the following:

```
0 ServerA 0
```

This entry includes the database partition server number (node number), the TCP/IP host name of the server where the database partition server resides, and a logical port number for the database partition server.

If you are installing the partitioned configuration described in the installation overview, with four computers and a database partition server on each computer, the updated `db2nodes.cfg` should appear similar to the following:

```
0    ServerA    0
1    ServerB    0
2    ServerC    0
3    ServerD    0
```

5. When you have finished updating the `db2nodes.cfg` file, enter the `INSTHOME/sql11ib/adm/db2start` command, where `INSTHOME` is the home directory of the instance owner. For example, if your instance home directory is `/db2home/db2inst1`, enter the following command:

```
/db2home/db2inst1/sql11ib/adm/db2start
```

6. Log out.

Related reference:

- “DB2 node configuration file - `db2nodes.cfg`” on page 243

Enabling communications between database partition servers (Linux and UNIX)

This task describes how to enable communication between the database partition servers that participate in your partitioned database system. Communication between database partition servers is handled by the Fast Communications Manager (FCM). To enable FCM, a port or port range must be reserved in the `/etc/services` file on each computer in your partitioned database system.

Prerequisites:

You must have a user ID with root authority.

Restrictions:

You must perform this task on participating computers only. When you create an instance using the DB2 Setup wizard, a port range is automatically reserved on the primary (instance-owning) computer.

Procedure:

To enable communications between servers in a partitioned database environment:

1. Log on to the primary computer (instance owning computer) as a user with root authority.
2. View the default port range that has been reserved in the `/etc/services` file. In addition to the base configuration, the FCM ports should appear similar to the following:

```
db2inst1          50000/tcp
#Add FCM port information
DB2_db2inst1      60000/tcp
DB2_db2inst1_1    60001/tcp
DB2_db2inst1_2    60002/tcp
DB2_db2inst1_END 60003/tcp
```

By default, the first available four ports above 60000 are reserved. One port is for the instance-owning database partition server and three ports are for logical database partition servers that you might choose to add to the computer after installation is complete.

DB2 port entries use the following format:

```
DB2_instance_name    port_number
```

where:

- *instance_name* is the name of the partitioned instance.
 - *port_number* is the port number that you reserve for database partition server communications.
3. In turn, log onto each participating computer as a root user and add identical entries to the `/etc/services` file.

You can add a comment to describe each entry using the `#` comment identifier. For example:

```
DB2_db2inst1        60000/tcp    # instance-owning partition port
DB2_db2inst1_1      60001/tcp    # logical partition port
DB2_db2inst1_2      60002/tcp    # logical partition port
DB2_db2inst1_END    60003/tcp    # logical partition port
```

Related concepts:

- “Fast communications manager (Linux and UNIX)” on page 26

Related reference:

- “DB2 node configuration file - `db2nodes.cfg`” on page 243

Enabling the execution of remote commands (Linux and UNIX)

You must update your `.rhosts` file in both a single-partition and partitioned database environment to execute remote commands.

In a partitioned database system, each database partition server must have the authority to perform remote commands on all the other database partition servers participating in an instance. This authority can be granted by updating the `.rhosts` file in the home directory for the instance. Because the home directory for the instance is on the shared DB2 home file system, only one `.rhosts` file is required.

Prerequisites:

- You must have root authority.
- You must know the host name of each participating computer
- You must know the instance owner’s user name.

Procedure:

1. Log onto the primary computer as a user with root authority.
2. Create a `.rhosts` file in the instance home directory. For example, if your instance home directory is `/db2home/db2inst1`, you can use a text editor to create the `.rhosts` file by entering the following command:

```
vi /db2home/db2inst1/.rhosts
```

3. Add entries to the `.rhosts` file for each computer including the primary computer. The `.rhosts` file has the following format:

```
hostname    instance_owner_user_name
```

Some systems might require a long host name to be specified, for example: `ServerA.yourdomain.com`. Before you add host name entries to the `.rhosts` file, make sure the host names in the `/etc/hosts` and the `/etc/resolv.conf` files can be resolved.

The *INSTHOME*/.rhosts file should contain entries similar to the following:

```
ServerA.yourdomain.com db2inst1
ServerB.yourdomain.com db2inst1
ServerC.yourdomain.com db2inst1
ServerD.yourdomain.com db2inst1
```

Rather than specifying each host name individually, you can specify the following entry in the .rhosts file, but this action may pose a security risk and should only be done in a test environment.

```
+ db2inst1
```

If you have specified a high speed switch (netname) in the db2nodes.cfg file, you should also add netname entries for each computer to the .rhosts file. The netname values are specified in the fourth column of the db2nodes.cfg file. A .rhosts file with high speed switch (netname) entries may look similar to the following:

```
ServerA.yourdomain.com db2inst1
ServerB.yourdomain.com db2inst1
ServerC.yourdomain.com db2inst1
ServerD.yourdomain.com db2inst1
Switch1.yourdomain.com db2inst1
Switch2.yourdomain.com db2inst1
Switch3.yourdomain.com db2inst1
Switch4.yourdomain.com db2inst1
```

An alternative to using a .rhosts file is to use /etc/hosts.equiv file. The /etc/hosts.equiv file would contain the exact same entries as the .rhosts file, but must be created on each computer.

For more information about the .rhosts file or the /etc/hosts.equiv file, see your operating system documentation.

Related tasks:

- “Creating a DB2 home file system for a partitioned database system (AIX)” on page 40
- “Creating a DB2 home file system for a partitioned database system (HP-UX)” in *Quick Beginnings for DB2 Servers*
- “Creating a file system for a partitioned DB2 server (Linux)” on page 42
- “Creating a file system for a partitioned DB2 server (Solaris Operating Environment)” on page 43

Part 4. Appendixes

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