IBM DB2 Alphablox

Installation Guide

Version 84

IBM DB2 Alphablox

Installation Guide

Version 8.4

Fourth Edition (September 2006)

This edition applies to version 8, release 4, of IBM DB2 Alphablox for Linux, UNIX and Windows (product number 5724-L14) and to all subsequent releases and modifications until otherwise indicated in new editions.

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Chapter 1. System requirements

DB2 Alphablox allows you to rapidly develop applications which analyze and apply enterprise information, enabling the delivery of easy-to-use analytic applications to line-of-business managers via the web. These applications help businesses to measure, manage, and improve performance, creating a competitive advantage.

DB2 Alphablox provides a robust architecture specifically designed for rapid development, deployment, and use of analytic applications.

DB2 Alphablox includes support for both relational and multidimensional data sources.

This chapter describes the supported configurations for running DB2 Alphablox applications.

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Introduction

DB2 Alphablox offers a powerful server-side analytic applications solution that places the majority of the requirements on the server-side, including application servers, web servers, data sources, and server platforms. By placing the burden on the server-side, user requirements are kept to a minimum.

Database restrictions for DB2 Data Warehouse Editions

The version of DB2 Alphablox included with IBM® DB2® Data Warehouse Edition (DWE) is restricted for use only with the DB2 databases supported by the license. The full version of DB2 Alphablox includes support for all of the relational and multidimensional databases listed in the system requirements.

The DWE version of DB2 Alphablox includes support for the following DB2 Alphablox data source adapters, which are used to create DB2 Alphablox data source definitions:

- IBM DB2 JDBC Type 4 Driver
- DB2 for iSeries™
- Alphablox Cube Server Adapter (for use with the DB2 Alphablox Cube Server)
- Application Server Data Source (licensed for use only with IBM WebSphere® Application Server and supported DB2 databases)
- Canned Data Adapter (for testing and debugging use)

The DB2 Alphablox Information Center, online help, sample applications, and sample data refer to relational and multidimensional databases that might not available for use in the DWE versions. Also, the available sample applications and sample data can only be used with the relational and multidimensional data

sources supported in the DWE versions. To acquire a licensed version of DB2 Alphablox that supports the complete list of the databases mentioned in the system requirements, contact your IBM sales representative.

Language support

DB2 Alphablox provides support for creating localized applications for the following languages:

- Arabic
- Simplified Chinese
- Traditional Chinese
- Czech
- English
- French
- German
- Greek
- Hebrew
- Hungarian
- Italian
- Japanese
- Korean
- Polish
- Brazilian Portuguese
- Russian
- Spanish
- Turkish

The DHTML client supports bidirectional (BiDi) text for bidirectional languages such as Arabic and Hebrew. For information on designing application that support bidirectional languages, see the topic on designing applications for bidirectional languages in the *Developer's Guide*.

The user interface and user help for Blox applications (that is, the interface and online help that an end user who is using an application developed on the DB2 Alphablox platform can access) is available in the supported languages listed above. The DB2 Alphablox Admin Pages, used for administering DB2 Alphablox, and the associated online help, are currently available only in English. Contact your local IBM office for information on the documentation that is available in a particular language.

Supported client configurations

This section provides information on the supported client configurations for DB2 Alphablox.

DHTML Client

The following table lists the supported browser configurations for the DHTML client:

Component	Minimum Requirement
Platform	Pentium-based CPU - 600 MHz
Operating System	Windows® XP Professional SP2; Windows 2000 Professional SP2; Red Hat Enterprise Linux® 4, 3; SUSE Linux 9; AIX® 5.3, 5.2; Solaris 10, 9
Memory	256 MB
Disk Space Used*	0 MB
Browsers	Mozilla Firefox 1.5, 1.0.7; Mozilla 1.7.8; Microsoft® Internet Explorer 6.0 SP1
Microsoft Excel (for Export to Excel)	Excel 2003, Excel XP, Excel 2000

*   This does not include disk space used for virtual memory, caching, or applications.

Adobe Acrobat Reader

For convert to PDF functionality, the following is required for each client machine to properly display Adobe Acrobat PDF files generated by DB2 Alphablox:

Software	Version
Adobe Acrobat Reader	7.0; 6.0

Integrated development environments

The following integrated development environments are supported for use with DB2 Alphablox and the DB2 Alphablox Toolkit plug-in.

Software	Version
Rational® Application Developer	6.0.1 (English only)
Rational Web Developer	6.0.1 (English only)

Supported databases

This section lists the multidimensional and relational databases supported by DB2 Alphablox.

Multidimensional databases

The following table lists the multidimensional databases DB2 Alphablox supports.

Type	Version
IBM DB2 Cube Views™	8.2.3 (8.1 Fix Pack 10), 8.2, 8.1 Fix Pack 3
IBM DB2 OLAP Server™	8.2, 7.1 Fix Pack 11; iSeries: 8.1
IBM DB2 OLAP Server Deployment Services	8.2, 8.1 Fix Pack 5
IBM DB2 OLAP Server - Hybrid Analysis	8.2, 8.1 Fix Pack 5
IBM DB2 OLAP Server Integration Services	8.2, 8.1 Fix Pack 5

Type	Version
Hyperion Essbase	System 9, 7.1.5, 7.1.3, 7.1.2, 7.1.1, 6.5.7 The operating systems listed below support the use of the "Hyperion Essbase Adapter" data source option, which uses the Essbase 32-bit bridge and requires the use of a 32-bit JVM. Note: The 32-bit bridge is used on both the 32-bit and 64-bit systems listed. • Red Hat Enterprise Linux 3 on x86 (32-bit only) • AIX 5.3, 5.2 • Sun Solaris 10, 9 • Windows 2003 Server (Standard, Enterprise Data Center) on x86 (32-bit) - No support for AMD64 (64-bit) and EM64T (64-bit) as DWE • Windows 2000 Server (Standard, Advanced, Data Center) with SP2
Hyperion Essbase Deployment Services	System 9, 7.1.3, 7.1.2, 7.1.1, 6.5.7
Hyperion Essbase Integration Services	System 9, 7.1.3, 7.1.2, 7.1.1, 6.5.7. For EIS native drillthrough support, Essbase Analytic Services (6.5.7 or later), Essbase Integration Services (6.5.4 or later), and Essbase Deployment Services (6.5.7 or later for Windows). Hybrid Analysis support is included.
Microsoft Analysis Services	SQL Server 2005 Analysis Services (requires MSXML, version 6, and SQL Server 2005 Analysis Services 9.0 OLE DB Provider, obtainable from Microsoft, to be installed on the same machine as your DB2 Alphablox installation); SQL Server 2000 Analysis Services SP3
SAP Business Information Warehouse (SAP BW)	3.5

Relational databases

The following table lists the relational databases supported for use with DB2 Alphablox. Both 32-bit and 64-bit versions are supported, unless otherwise specified.

Type	Version	Drivers
Oracle	10g, 9i	Oracle JDBC Thin Driver 10.1.0.2.0
Microsoft SQL Server	SQL Server 2005; SQL Server 2000 SP3 (32-bit)	SQL Server 2005 Driver for JDBC; SQL Server 2000 Driver for JDBC Service Pack 2
IBM DB2 Universal Database™ (UDB) for Linux, UNIX and Windows	8.2.3, 8.2, 8.1 Fix Pack 3 (32-bit), 7.2 (32-bit)	IBM Type 4 DB2 driver*, IBM Type 3 DB2 driver*
IBM DB2 UDB for iSeries	V5R3 (64-bit)	AS/400® Toolbox for JDBC driver
IBM DB2 UDB for z/OS®	8.1.5	IBM Type 4 DB2 driver
IBM Cloudscape™	10.0 (32-bit)	IBM Type 4 DB2 driver
Apache Derby	10.0 (32-bit)	IBM Type 4 DB2 driver
IBM WebSphere Information Integrator	8.2.3, 8.2, 8.1 Fix Pack 3 (32-bit), 7.2 (32-bit)	IBM Type 4 DB2 driver*, IBM Type 3 DB2 driver*

Type	Version	Drivers
Informix® Dynamic Server	10, 9.4	
Informix Extended Parallel Server	8.5	
IBM Red Brick™ Warehouse	6.3	
Sybase Adaptive Server	12.5 (32-bit), 12.0 (32-bit)	Sybase JConnect for JDBC 5.5 (Build 25165) EBF11248

* The Type 3 driver supports DB2 versions 7.2 and 8.1. Use of the Type 4 driver is recommended for DB2 8.1, since the Type 3 driver is deprecated. The driver FixPak version must exactly match the version on the database you are connecting to.

DB2 Alphablox Repository - supported relational databases

The following table lists the relational databases supported for use as a DB2 Alphablox Repository. Both 32-bit and 64-bit versions are supported, unless otherwise specified.

Type	Version
Oracle	10g, 9i
Microsoft SQL Server	SQL Server 2005; SQL Server 2000 SP3 (32-bit) For multiple locales support on new installations, follow the procedures described in "Pre-installation tasks" on page 12 and "Creating a Microsoft SQL Server-based DB2 Alphablox Repository for multiple locales support" on page 40 For multiple locales support on upgrade installations, contact IBM DB2 Alphablox technical support.
IBM DB2 Universal Database (UDB)	8.2.3, 8.2, 8.1 Fix Pack 10, 8.1 Fix Pack 2
IBM Cloudscape	10.0 (32-bit)
Apache Derby	10.0 (32-bit)
Informix Dynamic Server	10 (32-bit), 9.4 (32-bit)

Supported server configurations

This following topics include server configuration requirements on which DB2 Alphablox is supported.

- "System requirements: Linux" on page 6
- "System requirements: Windows" on page 8
- "System requirements: Sun Solaris" on page 7
- "System requirements: IBM AIX" on page 6
- "Application servers" on page 9

System requirements: Linux

The following table lists the system requirements for installing DB2 Alphablox on Linux systems.

Component	Minimum Requirement
Platform*	x86 CPU, x86_64 CPU, or PPC64 CPU - 1GHz or greater
Operating Systems	Red Hat Enterprise 4: x86 (32-bit), AMD64 (64-bit), EM64T (64-bit), and POWER™ (64-bit); Red Hat Enterprise Linux 3: x86 (32-bit); SuSe Linux Enterprise Server 9: x86 (32-bit), AMD64 (64-bit), EM64T (64-bit), and POWER (64-bit: PPC64 requires SP1)
Memory - RAM	1 GB
Disk Space Used**	300 MB for Alphablox directory, plus 200 MB for temp directory during installation
Web Server (Optional)***	Alphablox 8.4.1: Apache HTTP Server 2.0 Alphablox 8.4: No optional web servers supported.
Application Server	BEA WebLogic application servers are not supported currently on Linux. Also, See "Application servers" on page 9.
Java™ VM	Alphablox 8.4.1: J2SE SDK or JRE 1.5 (only with Apache Tomcat 5.5), 1.4.x Alphablox 8.4: J2SE SDK 1.4.x
X11 Libraries	X11 libraries must be installed on the Linux system for DB2 Alphablox to start up correctly. Also see "Running DB2 Alphablox on Linux or UNIX using servers without graphics cards or using remote telnet" on page 42.

*   DB2 Alphablox must be started from an X Server window. For more information, see "Running DB2 Alphablox on Linux or UNIX using servers without graphics cards or using remote telnet" on page 42.

**   Does not include disk space used for virtual memory, caching, or applications.

***   DB2 Alphablox can also use Apache Tomcat as the web server. If Apache HTTP Server and DB2 Alphablox are used together, install both on the same machine. For information about using DB2 Alphablox and a standalone web server on different machines, contact DB2 Alphablox Customer Support.

System requirements: IBM AIX

The following table lists the minimum system requirements for installing DB2 Alphablox on an IBM AIX system.

Component	Minimum Requirement
Platform*	PPC64 CPU
Operating System	AIX 5.3, 5.2
Memory - RAM	1 GB

Component	Minimum Requirement
Disk Space Used	500 MB for DB2 Alphablox directory, plus 450 MB for temp directory during installation
Web Server (optional)[**]	Alphablox 8.4.1: Microsoft IIS+ 6.0, 5.0.1; Apache HTTP Server 2.0
	Alphablox 8.4: Sun iPlanet 6.0; Apache HTTP Server 2.0 (not supported with Apache Tomcat), 1.3
Application Server	See "Application servers" on page 9.
Java VM	Alphablox 8.4.1: J2SE SDK or JRE 1.5 (only with Apache Tomcat 5.5), 1.4.2
	Alphablox 8.4: J2SE SDK 1.4.2
Graphics Card	AIX server must have graphics card installed and X Server color depth settings of 8 bit or greater.
X11 Libraries	X11 libraries must be installed on the AIX system for DB2 Alphablox to start up correctly. Also see "Running DB2 Alphablox on Linux or UNIX using servers without graphics cards or using remote telnet" on page 42.

[*] DB2 Alphablox must be started from an X Server window. For more information, see "Running DB2 Alphablox on Linux or UNIX using servers without graphics cards or using remote telnet" on page 42.

[**] DB2 Alphablox can also use Apache Tomcat as the web server. If an external web server (Apache HTTP Server or Sun iPlanet) and DB2 Alphablox are used together, install both on the same machine. For information about using DB2 Alphablox and a standalone web server on different machines, contact DB2 Alphablox Customer Support.

System requirements: Sun Solaris

The following table lists the system requirements for installing DB2 Alphablox on a Sun Solaris system.

Component	Minimum Requirement
Platform[*]	Sun UltraSPARC or SPARC
Operating System	Solaris 10, 9[**]
Memory - RAM	1 GB
Disk Space Used	400® MB for DB2 Alphablox directory, plus 250 MB for temp directory during installation
Web Server (optional)***	Alphablox 8.4.1: Apache HTTP Server 2.0
	Alphablox 8.4: SunOne iPlanet 6.0; Apache HTTP Server 2.0 (not supported with Apache Tomcat), 1.3
Application Server	See "Application servers" on page 9.
Java VM	Alphablox 8.4.1: J2SE SDK or JRE 1.5 (only with Apache Tomcat 5.5), 1.4.2
	Alphablox 8.4: J2SE SDK 1.4.2

Component	Minimum Requirement
Graphics Card	Solaris server must have a graphics card installed and X Server color depth settings must be 8 bit or 16 bit. If a graphics card is not installed, see "Running DB2 Alphablox on Linux or UNIX using servers without graphics cards or using remote telnet" on page 42.

 *   DB2 Alphablox must be started from an X-server window. For more information, see "Running DB2 Alphablox on Linux or UNIX using servers without graphics cards or using remote telnet" on page 42.

 **   Install the Sun recommended patches for Solaris. For download, see http://sunsolve.sun.com/.

 ***   DB2 Alphablox can also be used with Apache Tomcat as the web server. If another web server (Apache HTTP Server or Sun iPlanet) and DB2 Alphablox are used together, install both on the same machine. For information about using DB2 Alphablox and a standalone web server on different machines, contact DB2 Alphablox Customer Support.

System requirements: Windows

The following table lists the system requirements for installing DB2 Alphablox on Microsoft Windows systems.

Component	Minimum Requirement
Platform	x86 CPU - 1 GHz or greater
Operating Systems	Windows Server 2003 (Standard, Enterprise, and Data Center) on x86 (32-bit) SP1 Windows 2000 Server (Standard, Advanced, and Data Center) SP4
Memory - RAM	1 GB
Disk Space Used*	400 MB for DB2 Alphablox directory, plus 200 MB for temp directory during installation
Web Server (Optional)**	Alphablox 8.4.1: Microsoft IIS$^+$ 6.0, 5.0.1; Apache HTTP Server 2.0 Alphablox 8.4: Sun iPlanet 6.0; Microsoft IIS+ 6.0, 5.0.1; Apache HTTP Server 2.0 (only with WebSphere and WebLogic application servers), 1.3
Application Server	See "Application servers" on page 9.
Java VM	Alphablox 8.4.1: J2SE SDK or JRE 1.5 (only with Apache Tomcat 5.5), 1.4.2 Alphablox 8.4: J2SE SDK 1.4.2

 *   Does not include disk space used for virtual memory, caching, or applications.

 **   DB2 Alphablox can also use Apache Tomcat as the web server. If another web server (Apache HTTP Server, Sun iPlanet, or Microsoft IIS) and DB2 Alphablox are used together, install both on the same machine. When using iPlanet or IIS as the web server, only a single instance of DB2

Alphablox is supported. For information about using DB2 Alphablox and a standalone web server on different machines, contact DB2 Alphablox Customer Support.

+   Use of multiple virtual web servers with IIS is not supported.

Application servers

The following table lists the supported J2EE application servers for DB2 Alphablox.

Note: Because DB2 Alphablox runs as part of an application server, DB2 Alphablox and the application server must reside on the same machine.

Application Server	Version	Comments
Apache Tomcat	5.5.17 (Alphablox 8.4.1); 3.2.4 (Alphablox 8.4)	Supported using 32-bit Java VM on all platforms; 64-bit Java VM is supported on all supported 64-bit platforms, except Solaris with Apache Tomcat 3.2.4. Apache Tomcat is not installed automatically as the application server; you must install it before proceeding with the DB2 Alphablox installation if you are using this option. The supported Apache Tomcat versions are available at the following URLs: Apache Tomcat 5.5: http://tomcat.apache.org/download-55.cgi Apache Tomcat 3.2.4: http://archive.apache.org/dist/tomcat/tomcat-3/archive/v3.2.4/.
BEA WebLogic	8.1.4	Clustering is supported on supported AIX, Solaris, and Windows. Not supported on Linux.
IBM WebSphere Application Server	6.0 and later, 5.1.1 and later	Includes support for Express editions. Note that the default port numbers are different for the two versions - 9080 for the Enterprise version and 7080 for the Express version. Clustering is supported on all platforms.
IBM WebSphere Portal Server	5.1.0.2, 5.1	Includes support for Express editions. Version 5.1.0.2 is supported on IBM WebSphere Application Server 6.0 and 5.1. Version 5.1 is supported on WebSphere Application Server 5.1.

Chapter 2. Pre-installation

This chapter provides an overview of the installation process and describes the steps you need to perform before running the DB2 Alphablox installer.

Installation overview

The DB2 Alphablox installation process installs and configures DB2 Alphablox to run on your system with your selected application server.

The DB2 Alphablox installer includes a GUI-based wizard that will guide you through the installation process. On Linux and UNIX® machines, a console-based installer is also available.

DB2 Alphablox must be installed using one of the supported application servers. For a list of supported application servers, see "Application servers" on page 9.

The installer guides you through the process of installing with an application server. Your application server must be installed and configured appropriately before starting the DB2 Alphablox installer.

Console installation for Linux and UNIX

The DB2 Alphablox installer includes a GUI-based wizard that can be used on most supported Linux and UNIX machines. If you need to install DB2 Alphablox from a console window on a machine on which the X Windows libraries are not available, the console installer can be used. The console-based installation can also be used to perform a console-based installation on a Linux or UNIX machine by using a telnet session to the Linux or UNIX machine from a Windows machine.

To use the console installer on Linux and UNIX platforms, follow the procedure described in "Starting the Installer" on page 17 and choose option 1 when the installer prompts to start the console installation.

Installation task checklist

The following table lists the major tasks required for DB2 Alphablox installation with a link to where to find information about each task.

Task		Cross Reference
1	Ensure you have the proper system requirements.	Chapter 1, "System requirements," on page 1
2	Identify and understand the installation process and the application server configuration to which you are installing.	"Installation overview" on page 11
3	Perform the pre-installation tasks, including any specific to your application server.	"Pre-installation tasks" on page 12
4	Install DB2 Alphablox, making sure to follow any application server-specific tasks.	Chapter 3, "Installing DB2 Alphablox," on page 17
5	Perform general post-installation tasks and any application server-specific tasks.	Chapter 4, "Post-installation tasks," on page 33
6	Install DB2 Alphablox 8.4 Information Center)	

Pre-installation tasks

Before installing DB2 Alphablox, you should perform the following tasks.

For all configurations

Perform the following tasks before running the DB2 Alphablox installer:

1. Make sure your server machine has the required configuration specifications. For details, see "Supported server configurations" on page 5.

2. If you are upgrading an existing instance of DB2 Alphablox, shut down the server before upgrading.

3. If you will be using a file system-based DB2 Alphablox Repository on a Linux or UNIX system, make sure that the LANG environment variable for your operating system is set to UTF-8 to ensure that repository data is stored and retrieved properly.

4. If you will be using a relational database for your DB2 Alphablox Repository, make sure you have a database set up and have all the database-specific configuration information to connect to that database.

   Note: For Microsoft SQL Server database repositories requiring support for multiple locales:

   When using DB2 Alphablox with a Microsoft SQL Server database repository with multiple locales being used in the web clients, saving bookmarks will generate errors unless you first install DB2 Alphablox to a file repository and then follow the post-installation procedure described in "Creating a Microsoft SQL Server-based DB2 Alphablox Repository for multiple locales support" on page 40.

5. Copy any JDBC drivers you may need (see "Relational databases" on page 4) into a directory containing only JDBC drivers on your installation machine. During installation, you can enable the supported JDBC drivers in that directory.

6. Ensure you have the required administrative rights for your system:

- For Windows systems, make sure you have Administrator privileges on the Windows 2000 or Windows Server 2003 machine used for the installation.
- For Linux and UNIX systems, make sure you have complete access (read, write, execute) to the filesystem to which you are installing.

Using WebSphere clustered environments

Note the following if you will be installing DB2 Alphablox in a WebSphere Application Server clustered environment:

- If IBM WebSphere Application Server and WebSphere Manager are on the same machine, different ports must be defined. This also applies if you intend to add WebSphere as a Node that will be managed by the WebSphere Manager.
- If you are using WebSphere cluster in Windows where there is a Windows Domain, make sure that the user has the following rights:
  - Act as part of the operating system
  - Log on as a service
  - Is a Windows Network administrator (set by your domain administrator)
- If you are using a WebSphere cluster in Linux or UNIX, make sure that you have a user with root privileges.

To use WebSphere Application Server in a clustered mode, perform the following steps:

1. Install WebSphere on machine 1.
2. Install WebSphere on machine 2.
3. Install WebSphere Manager on machine 3 (or machine 1 or 2, in this case make sure that port numbers are different).
4. Start the WebSphere Manager using the `startManager.bat` (Windows) or `startManager.sh` (Linux or UNIX) batch file located in the following directory:

   `<websphere_dir>/DeploymentManager/bin/`
5. Go to machine 1 and add WebSphere in the node to the Network Deployment Manager:

   `<websphere_dir>/AppServer/bin/addNode <DM_HOST>`
   `<SOAP_CONNECTOR__PORT>)`

   The default port is 8884.
6. Repeat step 5 for machine 2.
7. Add aliases for the WebSphere HTTP ports in machines 1 and 2 (default is 9080) to the virtual host default host by following these steps:

   a. Go to WebSphere Administrative console.

   b. Select Environment > Virtual Hosts.

   c. Click on default_host.

   d. Under Additional Properties, Select Host Aliases, and add a new host alias with the Host Name and the Port set to the WebSphere HTTP port.
8. You can now create a cluster by choosing clusters option and add the WebSphere servers.

Note: The `addNode` command automatically starts the node agent but will not start the server, so you need to start the server using the following start server command (`addNode.bat` for Windows; `addNode.sh` for Linux or UNIX), located in the following directory:

   `<websphere_dir>/AppServer/bin/`

Or, you can use the Alphablox Admin Pages.

Note: When you stop the WebSphere Network Deployment Manager and all of its nodes and start again, you need to manually start the node. To do this, run the `startNode.bat` (Windows) or `startNode.sh` (Linux or UNIX) command from every Node machine. The command file is located in the following directory:

```
<websphere_dir>/AppServer/bin/
```

This command automatically starts the node agent but will not start the server, so you need to start the server by using the `startServer.bat` (Windows) or `startServer.sh` (Linux or UNIX) command, located in the following directory:

```
<websphere_dir>/AppServer/bin/
```

See "Installing DB2 Alphablox in IBM WebSphere Clustered Environments" on page 25 for more information about the configuration and installation of DB2 Alphablox in a WebSphere clustered environment.

Using the BEA WebLogic Application Server

If you are running DB2 Alphablox within the BEA WebLogic application server, you must perform the following tasks before running the Alphablox installer:

1. Install the WebLogic application server. Make sure it is a supported version of WebLogic as described in "Application servers" on page 9. For details on installing WebLogic, see the BEA WebLogic documentation available online at BEA Product Documentation (http://edocs.bea.com).
2. Use the WebLogic configuration wizard to create a domain.
3. Start the WebLogic server.
4. Open the WebLogic console.
5. Create at least one user on WebLogic. For example, to create a user that is equivalent to the default administrative user in an Apache Tomcat installation of DB2 Alphablox, create a user with the name `admin` and a password of `password`.
   a. Create a group called `AlphabloxAdministrator` under the Security of the proper realm.
   b. Create another group called `AlphabloxUser` the Security of the proper realm.
   c. Configure a role called `AlphabloxAdministrator` and add the condition that Caller is part of the group `AlphabloxAdministrator`, and `AlphabloxUser`.
   d. Configure a role called `AlphabloxUser` and add the condition that Caller is part of the group `AlphabloxUser`.
   e. Create a user named `admin`, adding this user to the `AlphabloxAdministrator` and `AlphabloxUser` groups.

   For details on creating and modifying groups in WebLogic, see the BEA WebLogic documentation available online at BEA Product Documentation (http://edocs.bea.com)

Using WebLogic clustered environments

See "Using DB2 Alphablox in WebLogic clustered environments" on page 27 for details about pre-installation configuration and installing Alphablox into a WebLogic clustered environment.

Using the Sun iPlanet Web Server on Alphablox 8.4

To configure DB2 Alphablox to run on Apache Tomcat (Alphablox 8.4 only; not supported on Alphablox 8.4.1) and to use the Sun iPlanet web server:

1. Make sure the web server is installed and configured on your machine.
2. Make sure you have administrative access to the web server. This ensures you have read, write, delete, and create privileges while working on the web server.
3. Before starting the DB2 Alphablox installation program, you must shut down the web server.

Using Microsoft IIS with Apache Tomcat installations

If you are installing DB2 Alphablox on Apache Tomcat and will be using Microsoft IIS as the web server, perform the following tasks:

1. Make sure Microsoft IIS web server is installed and configured on your machine.
2. If you are using Microsoft IIS, decide whether to use the web server security or DB2 Alphablox Repository for managing security. For details on the tasks necessary for setting up your security with Microsoft IIS, see the Security and Authentication section of the *Administrator's Guide*.
3. Before starting the DB2 Alphablox installation, you must shut down the web server.

Using the Apache HTTP Server 2.0 on Alphablox 8.4.1

To install DB2 Alphablox 8.4.1 on an Apache Tomcat 5.5 server and use the Apache HTTP Server 2.0:

1. Ensure that the Apache HTTP Server is installed and configured on your machine.
2. Before you install DB2 Alphablox, you must install and configure Apache Tomcat. See the Apache Tomcat documentation for installation and configuration information.

   Note: Ensure that you have a host that is named after your machine name rather than just the default localhost. Without this additional step, you can only access the server from the same physical machine where Apache Tomcat is installed.

3. Go to the Apache Tomcat download site for connector files (http://tomcat.apache.org/download-connectors.cgi) and obtain the appropriate *mod_jk.so* file for your Apache Tomcat server (binary files are available for most platforms, while others must be compiled).
4. Rename the file (to *mod_jk.dll* for Windows platforms or to *mod_jk.so* for Linux and UNIX platforms).
5. Copy the connector file into the appropriate Apache Tomcat directory.
   - Linux and UNIX platforms: Copy the *mod_jk.so* file into the Apache Tomcat *libexec* directory, in the Apache Tomcat root directory (for example, Apache/libexec). If the *libexec* directory does not yet exist, add a *libexec* directory.
   - Windows platforms: Copy the *mod_jk.dll* file into the Apache Tomcat *modules* directory, in the Apache Tomcat root directory (for example, Apache/modules). If the *modules* directory does not yet exist, add a *modules* directory.
6. Ensure that you have administrative access to the Apache HTTP Server. This access ensures that you have read, write, delete, and create privileges while working on the Web server.
7. Shut down the Apache HTTP Server.
8. Install DB2 Alphablox.

9. Start the Apache Tomcat server that is running DB2 Alphablox. This allows Apache Tomcat to create a required file for the web server.

10. Start your Apache HTTP Server.

DB2 Alphablox can now be used with your Apache HTTP Server.

Using the Apache HTTP Server 1.3 on Alphablox 8.4

If you are installing DB2 Alphablox 8.4 on an Apache Tomcat server and will be using the Apache HTTP Server, perform the following tasks:

1. Ensure that the Web server is installed and configured on your machine.

2. Make sure you have administrative access to the web server. This ensures you have read, write, delete, and create privileges while working on the web server.

3. Before starting the DB2 Alphablox installation, you must shut down the web server.

4. Start DB2 Alphablox. This allows DB2 Alphablox to create a required file for the web server.

5. Stop DB2 Alphablox and start your Apache HTTP Server.

6. Start DB2 Alphablox.

DB2 Alphablox can now be used with your Apache HTTP Server.

Chapter 3. Installing DB2 Alphablox

This chapter describes the procedure for installing DB2 Alphablox on Linux, UNIX, and Windows systems.

Starting the Installer

If you have checked the system requirements (see Chapter 1, "System requirements," on page 1) and performed any required tasks described in Chapter 2, "Pre-installation," on page 11, you are ready to start installing DB2 Alphablox. Follow the steps described below for you operating system.

Windows

Perform the following to start the DB2 Alphablox installer on Windows platforms:

1. Insert the CD-ROM into the drive. The DB2 Alphablox installer should launch automatically, and after a brief period, the first screen appears.

   Note: If you will be using Microsoft Analysis Services with DB2 Alphablox, you need to install the minimum required Microsoft Data Access Components (MDAC) and Microsoft PivotTable Services versions before proceeding with your installation.

2. Continue the rest of the installation procedure on Windows platforms at "Responding to Installer prompts" on page 18.

Linux and UNIX

Perform the following to start the DB2 Alphablox installer on Linux and UNIX platforms:

1. Before starting the DB2 Alphablox installation, verify that $JAVA_HOME$/bin/ java file exists. If your JDK does not contain this file, you can create a symbolic link to the file, located in the jre directory.

2. If you are installing from a CD drive, mount the CD drive for the installation.

3. Navigate to the top level of the install directory (the directory in which the CD-ROM is mounted to or the directory in which you expanded the file). For example:

   ```
   cd /cdrom
   ```

4. Run the install.sh script to start the installation by entering the following command:

   ```
   ./install.sh
   ```

5. Choose whether you want to run the default graphic installer or if you want to run the console installer (for details, see "Console installation for Linux and UNIX" on page 11).

6. The installer unpacks the installation and then the first screen appears. This process might take several minutes as it has to unpack a large file. For the rest of the installation procedure, see "Responding to Installer prompts" on page 18.

Responding to Installer prompts

After starting the installer as described in "Starting the Installer" on page 17, continue with the installation by performing the following steps.

The installation of DB2 Alphablox can be tailored to your specific situation by choosing one of the predefined installation options, or by selecting the custom option to select the specific components you require. Below is a table listing the installation options available in the DB2 Alphablox installer:

Installation Set	Description
Compact	Minimal installation of DB2 Alphablox. Includes tools, utilities, and help (end user/admin).
Typical (default)	Compact, plus applications (FastForward, Examples, and Query Builder). Includes documentation for installation, administration, and development (Javadoc, DHTML Client, and Relational Reporting).
Custom	Choose this option to customize the features to be installed.
	Important: Use this option cautiously: For example, if you decide after a Typical Install to add a few selected components using the Custom installation set option, the installer will may remove files except for the newly selected ones.

Note: The following steps are based on use of the default graphical installer. If you are using the optional console installer for Linux or UNIX, the prompts are command-line prompts and differ slightly from the graphical installer, but it provides the same functionality.

Begin the Installation: All configurations

Perform the following steps to begin the DB2 Alphablox installation process for all configurations:

1. After you start the installer, the initial **DB2 Alphablox Installation** screen appears. Click the **Next** button.
2. The **License Agreement** screen appears. To continue the installation, you must accept the terms of the License Agreement displayed in the scrollable window. Select the radio button for "I accept the terms of the License Agreement," then click the **Next** button.
3. On the **Choose Instance Name and Location** screen, accept the default for the instance name (AlphabloxAnalytics), or specify a new one. Also, accept the default Destination Directory or specify a different location for your DB2 Alphablox installation. Click **Next**.

4. The next **Select Installation Set** screen allows you to choose a predefined installation set mentioned at the beginning of this section, or you can select a custom installation set. The default installation set selected is Typical. Click **Next**.

If You are Performing a New Installation:

For new installations of DB2 Alphablox, continue the installation as described in the sections below corresponding to your configuration.

- "IBM WebSphere Application Server or Portal Server" on page 19
- "BEA WebLogic" on page 20
- "Using Apache Tomcat 3.2.4 with Alphablox 8.4" on page 21

If You are Upgrading:

The DB2 Alphablox installer goes into upgrade mode if it detects that you have selected a directory containing a previous DB2 Alphablox installation. The following steps explain the steps you can use to upgrade your previous installation.

1. After starting up the DB2 Alphablox installer, the **IBM DB2 8.4 Alphablox Installation** screen appears. After reading the overview, press **Next**.
2. The **License Agreement** screen appears. To proceed, select the "I accept the terms of the License Agreement" screen and press **Next**.
3. On the **Choose Instance Name and Location** screen, verify the **Server Instance Name** and the **Destination Directory**. If the name of your previously installation's server instance name is different than the default value (`AlphabloxAnalytics`), make sure that the correct instance name is entered in the **Server Instance Name** field.
4. Press **Next**.
5. On the **Select Installation Set** screen, choose the installation set you want to use. For an upgrade, choose the installation set you used in your previous installation and press **Next**.
6. The **Confirm Upgrade** screen appears, allowing you to confirm your selections and then select either the **Step-By-Step** or **Auto Upgrade** option. Unless you need to make changes in the application server settings, select **Auto Upgrade**.

   Note: If you are installing DB2 Alphablox on a 64-bit Linux system (x86-64 or PPC64), use the **Step-by-Step** option to upgrade. This will ensure that any additional JDBC drivers are added properly.
7. Press Next and the installation will begin.

After the installation has finished, the browser window appears displaying the installation log file. Error and warning messages will appear, if there were any problems encountered during the installation.

IBM WebSphere Application Server or Portal Server

Perform the following steps to install DB2 Alphablox for use with IBM WebSphere Application Server or IBM WebSphere Portal Server

Note: Installing DB2 Alphablox with WebSphere on Windows: When installing DB2 Alphablox on a WebSphere server on Windows systems that will connect to Microsoft Analysis Services data sources, both the WebSphere

server installation and the DB2 Alphablox installation must be performed by the same Windows user. Otherwise, DB2 Alphablox will fail to connect to Microsoft Analysis Services.

1. Perform the beginning parts of the installation as described in "Begin the Installation: All configurations" on page 18.

2. Shut down your WebSphere server.

3. On the **Choose Application Server** screen, select the **WebSphere** option from the drop-down list.

4. Click the **Next** button. The installer will pop up a warning window alerting you to shut down WebSphere before continuing. Ensure that your WebSphere server has been shut down or the installation will not complete successfully.

5. On the next screen, enter the WebSphere root directory (the <websphere_dir>/AppServer directory in which WebSphere is installed). The installer looks in your WebSphere configuration file to determine the default values.

6. On the **Choose WebSphere Server** screen, select your WebSphere server from the drop-down list and then click **Next**.

7. On the **Verify WebSphere Settings** screen, verify the connection details and enter the login information for the administrator.

8. Continue the installation using the steps in "Finishing the installation: All configurations" on page 22.

BEA WebLogic

Perform the following to install DB2 Alphablox to run with the BEA WebLogic application server.

1. Perform the pre-installation tasks for WebLogic as described in "Using the BEA WebLogic Application Server" on page 14.

2. Perform the beginning parts of the installation as described in "Begin the Installation: All configurations" on page 18.

3. Shut down your WebLogic server.

4. When you get to the **Choose Application Server** screen, select **Install using an existing application server** and select **WebLogic8** from the drop down list.

5. Click the **Next** button. The installer will warn you to shut down WebLogic before continuing. If WebLogic is not shut down, the installation will not complete successfully.

6. **WebLogic**:

   a. Enter the WebLogic Domain Home (e.g., <BEA_Home>/user_projects/ domains/) and the WebLogic directory where the weblogic.jar file exists (e.g., <bea_home>/weblogic81/server/lib/). Select or enter the appropriate values for the WebLogic Domain Name, WebLogic Server Name, and the startup files. For the startup files, choose the domain-specific startWebLogic.cmd (Windows) or startWebLogic.sh (Linux and UNIX) file and domain-specific installService.cmd file.

   b. Click Next, then enter WebLogic administrator username and password.

   WebLogic Portal: After following the above steps for WebLogic, click the Browse button to select the WebLogic Server Start File, usually in <BEA_Home>\portal\bin\win32\startWebLogic.cmd. (Note: Ignore the populated list in the Start File selection box.) Set the path to the Service file, usually located at: <BEA_Home>\portal\bin\win32\installWebLogicService.cmd.

7. Continue with the installation in the section "Finishing the installation: All configurations" on page 22

BEA WebLogic (using clustered environments)

See "Using DB2 Alphablox in WebLogic clustered environments" on page 27.

Using Apache Tomcat 5.5 with Alphablox 8.4.1

To install DB2 Alphablox 8.4.1 on the Apache Tomcat 5.5 server, continue with the installation as follows.

1. On the Choose Application Server page, select **Tomcat** and click **Next** .
2. In the **Tomcat Directory** field, type the location of the Apache Tomcat root directory and then click **Next**.
3. On the Configure Tomcat Service and Host page, select the target Service and Host.
4. If you want to use the DB2 Alphablox Repository for managing the security of your Alphablox applications, select the **Use the IBM DB2 Alphablox Repository for security** check box. By default, Apache Tomcat manages user security.
5. On the Choose Web Server Configuration page, select a web server configuration option.
   - **Use existing configuration (default)**: Uses your existing configuration to serve Web pages. If you have previously configured Apache Tomcat or another external Web server, selecting this option preserves your configuration. If you use Apache Tomcat without any custom configuration, Apache Tomcat will serve web pages.
   - **Create new Apache HTTP Server configuration**: Appends the Apache Tomcat connector configuration file on the Apache HTTP Server that is specified in the Configure Apache page.
   - **Create new Microsoft IIS configuration**: Creates a new Microsoft IIS configuration on the server on the same machine. If you choose to use Microsoft IIS configuration with Windows Integrated authentication, select the **Add an IIS administrative user to IBM DB2 Alphablox** option to specify the IIS administrative user (on your local machine) that you will use to manage DB2 Alphablox. After you install DB2 Alphablox, perform the required post-installation tasks in "Microsoft IIS-specific post-installation steps" on page 36.
6. Stop your Web server in order to install DB2 Alphablox with an external Web server. Turning off the Web server is necessary in order to update configuration files that are locked while the Web server is running. If the installer detects your Web server is running, you will be prompted to shut it down.
7. On the Configure DB2 Alphablox page, enter the HTTP request port and then press the **Next** button.
8. Continue with the installation in the section "Finishing the installation: All configurations" on page 22.

Using Apache Tomcat 3.2.4 with Alphablox 8.4

To install DB2 Alphablox 8.4 on the Apache Tomcat 3.2.4 server, continue with the installation as follows.

1. On the **Choose Application Server** screen, select Tomcat and click next and enter the location the location of the Apache Tomcat root directory. After making the appropriate selections, click the **Next** button.

   Note: Apache Tomcat is not be installed automatically; for this step, you should point to a preinstalled Apache Tomcat server.

2. On the **Configure DB2 Alphablox** screen, the installer attempts to find the port number in which your web server is running and puts in default values for the minimum and maximum JRE heap sizes. Accept the defaults or modify the settings, then click the **Next** button.

> **Note:** The maximum heap size allowable is 2047 MB; the minimum heap size is 32 MB.

> **Important:** You must stop your web server in order to install DB2 Alphablox with an external web server. Turning off the web server is necessary in order to update some configuration files that are locked while the web server is running. If the installer detects your web server is running, you will be prompted to shut it down.

3. Continue with the installation in the section "Finishing the installation: All configurations."

Finishing the installation: All configurations

To continue with the installation for all configurations, follow these steps:

1. On the Configure DB2 Alphablox page, type new values or accept the default values for the following:
   - **Telnet Console Port**: the port in which you can access a telnet console to DB2 Alphablox. The selected port must be available on your system.
   - **Server Log File Name**: The name of the active DB2 Alphablox log file.
   - **Console Message Level**: The level of messages that are sent to the console and the log file.
   - **SMTP Server**: The name of an SMTP mail server on your network so applications can be set up to send e-mail.

   > **Note:** You can also modify these values later using the DB2 Alphablox Admin Pages.

2. On the Choose Java Location page, type the directory where a supported J2SE SDK or JRE version is installed. Click **Next**.

3. The Enable JDBC Drivers page appears and the **Include bundled DB2v8 driver option** is selected. Optionally, you can select the **Add additional drivers from directory** option and then browse to the directory where your JDBC drivers are installed. After selecting the directory, click the **Enabled JDBC Drivers** button to enable any supported drivers. After selecting the JDBC drivers, click **Next**.

   > **Note:** Supported drivers must be located in a directory that contains only JDBC drivers, either one that you have created exclusively for this purpose (for example, a directory on your hard drive called JDBCDrivers) or any directory that contains only JDBC drivers.

   > **Note:** JDBC drivers must be enabled in order to use an DB2 Alphablox Repository using a database or to use the Relational Reporting functionality.

   > **Note:** If you are upgrading from previous versions of DB2 Alphablox, the previous version's *db2alphablox_dir/lib* and WebSphere server's *WebSphere/AppServer/lib/ext* directory cannot be used as the location for the JDBC drivers.

4. On the **Configure Repository** page, you can configure DB2 Alphablox to run with a database repository or a file repository. For a file repository, select the **File** button, then click the **Next** button. Skip to Step 12.

> **Note:** You can change the settings after installation by running the repository conversion utility. For information about the repository conversion utility and about the different repository types, see the *Administrator's Guide*.

5. To use a relational database for your DB2 Alphablox Repository, click the **Database** button on the **Configure Repository** screen.

6. Select the database type from the drop list. For example, if you are using Oracle, choose **Oracle** from the drop list.

7. Enter all the configuration information for the database type selected. Enter a value for every field, making sure to use the username and password for the repository database owner. If you do not know the proper value, ask your database administrator.

8. After you have entered all of the database configuration information, click the **Next** button. If there is missing information, the installer prompts you to enter it.

9. The installer displays a page indicating it is going to run an application to connect to the database you configured. Click the **OK** button. If the connection is successful, a message similar to the following appears:

   Database Connection Test Successful!

   Press the **OK** button to continue.

   If the connection was not successful, correct any problems and try to connect again.

10. In the Configure Clustering page, select the appropriate radio button for your configuration:

    - **Stand Alone**: This is the setting if you are not running in a clustered configuration.
    - **Lead Node**: Use this setting if you are running in a clustered configuration and the instance you are installing will act as the lead node of the cluster. If you are setting up the lead node, enter or accept the defaults for the IP address or the host name for your server, a port number for the cluster to listen on, the maximum number of hosts in the cluster, and the startup time.
    - **Normal Node**: Use this setting if you are running in a clustered configuration and the instance you are installing will not be the lead node of the cluster.

11. Use the Configure Conversion Utility page to enter the values for clustering options and any options for converting from an existing repository to a new one.

> **Note:** You can change the settings after installation by running the repository conversion utility and by editing the **Cluster Options** administration page. For information about the repository conversion utility, about the different repository types, and about clustering options, see the *Administrator's Guide*.

The **Configure Conversion Utility** page is where you set the options for how the existing (source) repository (if one exists) is converted to the new (destination) repository. The available **Conversion Operations** are as follows:

- **COPY**: leaves the source repository in place and creates a copy of it in the destination repository.
- **CHANGE**: changes the active repository to the destination repository.
- **MOVE**: deletes the source repository and creates a new repository in the destination repository.

The **Move Server Properties** list specifies how to migrate the server properties files to the instance of DB2 Alphablox you are installing. The options in the drop down list are as follows:

- **ALL**: specifies that all server properties be converted.
- **GLOBAL**: specifies that only the properties shared by the cluster (not the local machine entries) be converted.
- **SPECIFIC**: specifies that only the server properties specific to the local machine (not the clustered properties) be converted.

The **Existing Repository Tables** list specifies how the repository conversion utility treats existing tables in the repository:

- **Update**: Specifies that a Move or Copy operation updates the destination repository with information from the source repository, rather than replacing the contents of the destination repository.
- **Overwrite**: Deletes the existing tables and then recreates them.

The **User defined DDL schema file** box specifies a DDL file to use in place of the default DDL files that create the database objects for the repository. Do not check this box unless you have thoroughly tested your DDL files. The default DDL files are sufficient for most installations.

After entering all the information for the **Configure Conversion Utility** screen, click the **Next** button.

12. Review the options you have selected on the **Pre-Installation Summary** screen. If you need to change any options, click the **Previous** button to navigate to any previous screens and correct your configuration. If all of the options look correct, click the **Install** button to install DB2 Alphablox. The installation will take several minutes.

13. When the installation completes, the **DB2 Alphablox Installation Complete** screen appears. Click the **Done** button. The installation log displays in a browser window.

14. If you get a message in the installation log about your ARBORPATH environment variable, you have an existing DB2 OLAP Server or Essbase installation on your machine and there might be a conflict between the two installations if you are running DB2 Alphablox as a Windows service. If you get this warning and you plan on running DB2 Alphablox as a Windows service, contact your DB2 OLAP Server or Essbase system administrator to determine if the version of DB2 OLAP Server or Essbase to which your ARBORPATH environment variable is pointing is compatible with DB2 Alphablox. If you do not resolve the conflict, you might not be able to connect to DB2 OLAP Server or Essbase when running DB2 Alphablox as a Windows service (depending on the version of DB2 OLAP Server or Essbase you have installed).

15. Perform the post-installation tasks defined in Chapter 4, "Post-installation tasks," on page 33.

Using DB2 Alphablox in WebSphere clustered environments

System requirements

To operate DB2 Alphablox in a clustered environment, the following requirements must be met:

- For horizontal clustering environments, two or more computers each running the same version of DB2 Alphablox. For vertical clustering, one or more machines is required.
- Each instance of DB2 Alphablox must be configured to access the same DB2 Alphablox Repository, which must reside in a relational database.
- Each instance of DB2 Alphablox must have identical application content in WebSphere applications directories; they can either share the applications directory through a shared file system or have the applications directory replicated on each computer.
- The path to the DB2 Alphablox installation directory must be identical on each node (for example, `c:\Program Files\IBM\DB2 Alphablox`).
- Each computer in the cluster must have a static IP address.

   Note: DB2 Alphablox supports only the session affinity (or sticky session) setting in load balancing software.

Installing DB2 Alphablox in IBM WebSphere Clustered Environments

If you are running DB2 Alphablox within IBM WebSphere application servers configured in a clustered environment, perform the following tasks:

1. Verify that the WebSphere Network Deployment server, application servers, cluster server, and the WebSphere Web Server plug-ins (`plugin-cfg.xml`) are working without any problem before attempting to install DB2 Alphablox.
2. Shut down all WebSphere application servers and administrative servers on the nodes before beginning the installation of DB2 Alphablox.
3. Install DB2 Alphablox on the each machine in the cluster, making sure to select the "Installing to a clustered server" option on the **Configure WebSphere** screen. Choose a database repository for DB2 Alphablox during installation, then select the Lead Node option for one DB2 Alphablox installation.
4. Start the WebSphere Network Deployment server.
5. Open the Administrative Console on your WebSphere server.
6. Select **Applications > Install New Application**.
7. On the **Preparing for the application installation** screen, press the Browse button and choose the following path:

   db2alphablox_dir/installableApps/AlphabloxPlatform.ear

   then click **Next**.

   Note: You may need to use the server path setting to browse through the network to locate the *AlphabloxPlatform.ear* file.

8. The next screen shows the **Default Bindings Options**. Leave the default settings, unless you require different bindings, then click Next.
9. The **Application Security Warning** screen appears. Scroll to the bottom of this page and click on the Continue button.

10. The next section, **Install New Application**, consists of the following five steps as displayed in the dialog:

    Step 1: Provide options to perform the installation

    You can leave the existing settings and press **Next**.

    Step 2: Map virtual hosts for web modules

    Accept the existing values and press **Next**.

    Step 3: Map modules to application servers

    Map the module to your WebSphere cluster and then press **Next**.

    Step 4: Map security roles to users/groups

    Two roles, `AlphabloxAdministrator` and `AlphabloxUser`, should appear. You need to add at least one user for each role.

    For the `AlphabloxAdministrator` role, check the check box in front of that role, then press the Lookup Users or Lookup Groups buttons to add administrative users. You must select at least one user. After you have added the users or groups, they should be listed in the Mapped Users or Mapped Groups value for this role.

    For the `AlphabloxUser` role, check the checkbox under the All Authenticated column for this role. This allows all authenticated users to access applications.

    When finished, press **Next**.

    Step 5: Summary

    Scroll to the bottom of this screen, then press the **Finish** button.

11. The application is then deployed and "Application AlphabloxPlatform installed successfully" will be displayed. Click on the **Save to Master Configuration** link.

12. The **Save to Master Configuration** dialog should appear. Press the **Save** button. After a short wait period, you will be returned to the Administrative Console home page.

13. Next install the Application Studio by repeating steps 9 through 13 above, but this time select the `ApplicationStudio.ear` in the `installableApps` directory.

14. In the navigation menu of the Administrative Console, select **Applications > Enterprise Applications** to open the list of applications on your server.

15. Click on the AlphabloxPlatform application name and then click on the Configuration tab. A configuration table appears.

16. Find the **Starting Weight** setting and enter 1000 as the value. This will help ensure that the AlphabloxPlatform application starts after all other applications have loaded.

17. Scroll to the bottom of the screen and press **OK**. Then be sure to save the configuration twice, including saving to the master configuration.

18. Start up one of your clustered WebSphere servers, allowing DB2 Alphablox to create all necessary repository objects in the database. Verify the WebSphere log file to make certain there are no error messages, that DB2 Alphablox started up successfully, and make sure you see the following message: "Repository operation completed successfully".

19. Regenerate the WebSphere Web Server plug-in, and copy the newly generated `plugin-cfg.xml` file to the machine running the web server.

20. Shut down all of the servers in the cluster.

21. Install DB2 Alphablox on all remaining WebSphere servers, making certain to check the "Installing to a clustered server" option on the **Configure WebSphere** screen. For each of the remaining servers, also make sure to select the same database repository, but select the Normal Node option.

The DB2 Alphablox installation for your clustered servers environment should now be properly installed. After installation, you must also follow the post-installation steps described in "Clustered servers" on page 34.

Using DB2 Alphablox in WebLogic clustered environments

System requirements

DB2 Alphablox provides application administration capabilities to create, delete, modify, or import J2EE application without using the WebLogic console and without requiring a restart of the server. These capabilities will only be available if one of the following configurations is used:

1. DB2 Alphablox installed on a single WebLogic server that is also a WebLogic Admin Server.
2. DB2 Alphablox installed on a single WebLogic server that is in the same machine as a WebLogic Admin Server.
3. DB2 Alphablox installed in cluster mode on physically separate Managed Servers, with all servers pointing to the same application directory using File Sharing (note: this is not recommended by BEA). If this option is selected, you must also perform the tasks listed in "Using DB2 Alphablox with WebLogic Managed Servers" on page 29.

If DB2 Alphablox is to be used in a WebLogic cluster, then Alphablox recommends that developers use either of the first two options (1 or 2 above) for developing, testing, and debugging an application prior to deploying on a cluster.

Note: The following constraints apply to the use of DB2 Alphablox in WebLogic clustering environments:

- Failover is not supported
- DB2 Alphablox supports only the session affinity (or sticky session) setting in load balancing software.

  To use the load balancing in WebLogic clustering environments with built-in WebLogic load-balancing software and the round-robin option, BEA recommends either using an odd number of servers (at least 3) or use form-based authentication. (If neither of these options is used, the load will placed be on even-numbered servers.)

Installation

Complete the following steps to set up a clustered DB2 Alphablox environment using WebLogic clusters. There are other possible variations on this procedure that will work, but any procedure must include most of the steps described here.

1. Setup a WebLogic cluster as defined in the WebLogic documentation.
2. Verify that you have WebLogic installed on 3 machines, 1 WebLogic Admin Server and 2 WebLogic Managed Servers.
3. Verify that all DB2 Alphablox installations are on the same path.
4. Install DB2 Alphablox on the WebLogic Admin Server as if you were configuring a standalone WebLogic system. All systems will be using database versions of the DB2 Alphablox Repository.
5. Install DB2 Alphablox on the first Managed Server and configure it as the lead node.
6. Install DB2 Alphablox on the other Managed Servers as normal nodes.
7. Start the WebLogic Admin Server.

8. Start up the WebLogic console by pointing your web browser to the following URL:

```
http://<serverName>:7001/console
```

9. For each application, set the application target to point to the cluster by following these steps (alternatively, you can manually edit the `config.xml` file to make the following changes):

   Note: You may want to make a backup copy of the original `config.xml` file, in case you need it later.

   a. Select **AlphabloxAdmin** under **Deployments > Applications > AlphabloxPlatform**.

   b. Select **Target Tab** from right side frame.

   c. Select **Cluster Tab**.

   d. Under Available you should see the Cluster you have created. Select this and move it to Chosen.

   e. Click on Apply.

   f. Repeat these steps for all DB2 Alphablox applications.

   g. Make certain that none of the applications point to the Admin Server except for the "Default Web App."

10. Configure the appropriate load balance software for your system. The `HttpClusterServlet` provided by BEA can be used to test load balancing. See your BEA WebLogic Server documentation for details about the use of this servlet. Described below are the steps to configure this load balancing servlet:

    a. Set the target of the "Default Web App" to the Admin Server as well as the cluster.

    b. Check that you have created the `admin` user in WebLogic (In the Pre-Installation section, see step 4, "Using the BEA WebLogic Application Server" on page 14).

    c. Log into the WebLogic admin console.

    d. Select DefaultWebApp under Web Applications.

    e. Click on Edit Web Application Deployment Descriptors.

    f. Configure a new servlet named `HttpClusterServlet`

    g. Servlet class is `weblogic.servlet.proxy.HttpClusterServlet`

    h. Add the `DebugConfigInfo` parameter under the servlet, setting the value to `ON`.

    i. Add another parameter under HttpClusterServlet called `WebLogicCluster`, with the following value:

       ```
       <server1>:7001:7002|<server2>:7001:7002
       ```

       where `server1` and `server2` are your WebLogic Managed Servers.

    j. For HttpClusterServlet, create the following servlet mappings:

       1) `*.htm`
       2) `*.jsp`
       3) `*.html`
       4) `/`

    k. Persist all of the above changes.

    Note: HTTPClusterServlet is intended only for testing purposes and is not for use in a production environment. Performance issues may arise with the cluster if this servlet is used in a production environment.

Continuing setup

1. (Horizontal clusters only) On each of the WebLogic Managed Server start scripts, add the following Java VM argument:

   `-Dalphablox.admin.appserver.multiMachine=true`

   before the following text:

   `webLogic.Server`

   and after the following property:

   `-Dalphablox.weblogic.admin.password=<password>`

   Note: This tells this server that applications need to be copied to other systems. A notification alert should appear when you create DB2 Alphablox applications using DB2 Alphablox Admin Pages.

2. Verify that your configuration of the `HttpClusterServlet` is functioning correctly as your load balancing software. Set the `DebugConfigInfo` parameter to `ON` by adding the following `<init-param>` block to the `<servlet>` block that defines the `HttpClusterServlet` in your web.xml file:

   `<init-param>    <param-name>DebugConfigInfo</param-name> <param-value>ON</param-value> </init-param>`

3. Use a Web browser to access the following URL:

   `http://serverName:port/placeholder.jsp?__WebLogicBridgeConfig`

   where `myServer` is the WebLogic Server instance that is using the `HttpClusterServlet` to proxy requests, `port` is the port number on that server that is listening for HTTP requests, and `placeholder.jsp` is a file that does not exist on the server.

   The plug-in gathers configuration information and run-time statistics and returns the information to the browser. For more information on the DebugConfigInfo parameter, see the WebLogic documentation.

   For example:

   `http://10.3.20.227:7001/`
   `placeholder.jsp?__WebLogicBridgeConfig`

Using DB2 Alphablox with WebLogic Managed Servers

A fourth option, available for horizontal clusters only, is to have DB2 Alphablox installed in a WebLogic cluster with physically separate Managed Servers, but without using File Sharing. When this option is used, all DB2 Alphablox administration functionality will be available, except application creation, deletion, modification and import.

Note: To use this option, the following line must be added to the starting scripts for each Managed Server that DB2 Alphablox is installed on:

`-Dalphablox.admin.appserver.multiMachine=true`

After adding this line to your starting scripts, use the WebLogic console to perform these application-related tasks:

1. After creating a new DB2 Alphablox application and adding new files, copy the application directory, including all files, from the Managed Server to the Admin Server. [Note: When you create a new application using the DB2 Alphablox Admin Pages, you will see a message stating which Managed Server the application was created in.]

2. Use the WebLogic console to register the application with the target to be the same as the Managed Server that the application was created in.

3. Test the application and add files as necessary until the application is ready for production

Note: Constraints on the use of DB2 Alphablox in WebLogic clustering environments include the following:

- Failover is not supported

DB2 Alphablox supports only the session affinity (or sticky session) setting in load balancing software.

Using DB2 Alphablox with WebLogic vertical clusters

Vertical clusters allow multiple instances of WebLogic application servers to run on a single machine. DB2 Alphablox supports the use of WebLogic vertical clusters within a single domain. If you will be using WebLogic vertical clusters with DB2 Alphablox, perform the following pre-installation and installation steps for BEA WebLogic and DB2 Alphablox:

WebLogic configuration

1. Set up your domain using the WebLogic Domain Configuration Wizard and the WebLogic documentation.

2. During this process, select the Admin Server with Clustered Managed Servers option. Add each of the Managed Servers to the list of servers, choosing unique names (e.g., `Server1`, `Server2`, etc.) and making sure to use different listening ports and SSL ports for each machine.

   Note: The IP address is the same for all of the servers since they reside on the same physical machine.

3. Complete the rest of the Domain Configuration Wizard.

4. Start the WebLogic Admin Server from the Start menu.

5. Go to the WebLogic Console by pointing a web browser to the following address:

   `http://<server>:7001/console` (where `<server>` is the server instance's IP address or name)

6. Set up security as usual. (For details on configuring and using DB2 Alphablox security, see the Security and Authentication chapter of the *Administrator's Guide*)

7. Make copies of the Managed Server batch file (`startManagedWeblogic.cmd` for Windows; `startManagedWeblogic.sh` for Linux and UNIX) for each of the Managed Servers in your vertical cluster, renaming the file copies for each of the servers, for example, to `StartManaged1.cmd`, `StartManaged2.cmd`, etc. This file is located in the directory of the domain that you just created through the wizard, for example:

   `d:\bea_v702\user_projects\vertDomain`

8. Add the value for `SERVER_NAME` and `ADMIN_URL` to each of the newly copied Managed Servers. For example:

   `SERVER_NAME=server1, ADMIN_URL=http://i18neng2kd:7001`

DB2 Alphablox installation steps

After performing the WebLogic configuration steps above, you can now install DB2 Alphablox by following these steps:

1. Install DB2 Alphablox on the WebLogic Admin Server, and when prompted, name the server with a unique server instance name (e.g., `AdminAnalysisServer`) and install DB2 Alphablox in a uniquely-named directory (e.g., `AdminAlphablox`).

2. When the WebLogic configuration dialog appears during the installation of DB2 Alphablox:

   a. Select the proper start domain and start files.

      WebLogic: Choose the domain-specific `startWebLogic.cmd` (Windows) or `startWebLogic.sh` (Linux and UNIX) file and domain-specific `installSvc.cmd` file under the following directory:

      `../user_projects/domain/<domainName>`

   b. Choose the database repository option and configure it as standalone.

3. After installing DB2 Alphablox on the Admin Server, install DB2 Alphablox on the first Managed Server:

   a. Specify a unique instance name (for example, `Server1`) and directory location (e.g., `d:\vertical\server1`).

   b. Select the proper domain in the WebLogic configuration dialog.

   c. Point to the WebLogic start file for the first Managed Server's start file created earlier (for example, `StartManaged1.cmd`).

   d. Set this up as the Lead node.

      Note: Technically, this may or may not be the Lead node, but during installation the database repository requires that a Lead node is specified before the Normal nodes are created.

4. Install the second Managed Server, naming it, for example, `server2`.

   a. Specify a unique instance name (for example, `Server2AnalysisServer`) and directory location (e.g., `d:\vertical\server2`).

   b. Select the proper domain on the WebLogic configuration window.

   c. The WebLogic start file should be the second Managed Server start file created earlier (for example, `StartManaged2.cmd`).

   d. Set this up as a Normal node

      Note: This may or may not actually be the Normal node, depending on which Managed Server starts up first.

5. Under the domain directory you created earlier, modify the `config.xml`, setting each of the targets to point to the servers, in this case, `server1` and `server2`. At this point, each of the DB2 Alphablox applications will point to the last server that you installed (in this example `server2`). Change this to include both servers (separating the names with commas): `server1,server2`.

   Note: Make a copy of the original `config.xml` file before making any changes, just in case you need it.

6. Start the WebLogic Admin Server first. This needs to be running before the Managed Servers are started.

7. Next, start `server1`, then `server2`. The first Managed Server to be started will be the Lead node. You should see "DB2 Alphablox <instance name> started" on the DB2 Alphablox console.

> **Note:** If you see an error that "Common batch file to alter does not exist::callWebLogic," then you need to add a call to `aassetup.bat` (or `aassetup.sh` for Linux and UNIX) before the WebLogic server is started.

8. Now you should be able to connect to either Server1 or Server2, both of which share the same repository.

> **Note:** If you require any type of load balancing scheme, you'll need to set that up separately.

Chapter 4. Post-installation tasks

This chapter describes the tasks required after running the DB2 Alphablox installer on Linux, UNIX, and Windows systems.

Post-installation steps for WebSphere Application Server and WebSphere Portal Server

If you are installing a new DB2 Alphablox installation to WebSphere Application Server or WebSphere Portal Server, perform the post-installation steps in the "New installations" section below. If you are upgrading an existing installation, follow the steps under "Upgrades" on page 34 below.

New installations

If you are installing a new DB2 Alphablox installation to WebSphere Application Server, WebSphere Application Server - Express, or WebSphere Portal Server, perform the following steps:

1. Start your WebSphere server.

2. Enable required WebSphere security settings by performing these steps:

   a. Open the WebSphere Administrative Console. [Note: If you are prompted for username and password, then Global Security is already set up and you can skip these steps on enabling security.]

   b. In the left frame, select **Security > User Registries**.

      If you are using the Local OS option:

      1) Add values for Server User ID and Server User Password.

         Enter values for a user predefined on your system or create a new user on your machine (e.g. `wsadmin`), that will be used for administering your WebSphere server, including using the WebSphere Administrative Console and stopping the server.

      2) Go to **Security > Global Security**, check Enabled, uncheck Enforce Java 2 Security (does not apply to WebSphere Express), and set Active User Registry to Local OS.

      If you are using the LDAP option:

      1) Add values for LDAP connection information.

      2) Go to **Security > Global Security**, check Enabled, uncheck Enforce Java 2 Security, and set Active User Registry to LDAP.

> **Note:** WebSphere supports both Active Authentication Mechanism SWAM (Simple WebSphere Authentication Mechanism) and LTPA (Lightweight Third Party Authentication). To support LTPA, use the WebSphere Manager to set up a WebSphere Cluster by performing the following steps:
>
> 1) Go to **Security > Authentication Mechanisms > LTPA**.
> 2) Fill in the password field with the appropriate value.

> **Note:** Clustered environments only: Use the Administrative Console of the WebSphere Manager instead of the WebSphere Administrative Console.

3. Modify the scripts for starting and stopping your WebSphere server as follows:

   Windows

   a. Open **Start > All Programs > IBM WebSphere > Application Server**, right-click on the Stop the Server option and select Properties.
   b. In the Properties window that appears, find the Target field and add "-username <username> -password <password>" to the end of the string. For example:

      ```
      "C:\Program Files\WebSphere\AppServer\bin\stopServer.bat" server1
      -username wsadmin -password wspassword
      ```

   c. Press OK button to apply the change.

   Linux and UNIX

   a. When stopping your WebSphere server, you need to run the `stopServer.sh` command, adding the required "-username <username> -password <password>" string as command parameters. For example:

      ```
      stopServer.sh server1 -username wsadmin -password wspassword
      ```

During installation, two DB2 Alphablox EAR files (`AlphabloxPlatform.ear` and `ApplicationStudio.ear`) are automatically deployed to your WebSphere server.

> **Note: WebSphere Portal Server users**: The Portal Theme Utility, accessible in the DB2 Alphablox Administration Pages, is also available as a portlet that can be used in custom portal applications. The Portal Theme Utility portlet can be found in the `AlphabloxAdminPortlets.war` file, which is available in the `installableApps` directory of your DB2 Alphablox root directory. This portlet is available for use in your custom portal applications.

Upgrades

If you are upgrading an existing DB2 Alphablox installation, no additional steps are required. During installation, two required DB2 Alphablox enterprise applications, `AlphabloxPlatform` and `ApplicationStudio`, are installed to the WebSphere server.

Clustered servers

If you installed DB2 Alphablox to a clustered server environment, two required DB2 Alphablox applications, `AlphabloxPlatform` and `ApplicationStudio`, must be deployed manually to your clustered servers before DB2 Alphablox can be used. These steps are described in "Using DB2 Alphablox in WebSphere clustered environments" on page 25.

For WebSphere vertical clusters, you need to perform the following post-installation configuration to properly configure the server-specific JVM

parameter to identify the Java Management Extensions (JMX) communication port that DB2 Alphablox should use and set the server log name.

1. Log in to the WebSphere Administrative Console.
2. Under **Servers > Application Servers**, for each vertical node in the cluster, perform the following steps:
   a. Click the server's name (for example, **server1**).
   b. In the Server Infrastructure section, select **Java and Process Management > Process Definition**.
   c. In the Additional Properties section, select **Java Virtual Machine**.
   d. In the **Generic JVM arguments** field, type

      ```
      -Dabx.ws.admin.port.override=portNumber
      ```

      and

      ```
      -Dabx.cluster.log.file.suffix=serverName
      ```

      leaving a space between the two arguments.

      The port number (*portNumber*) is usually generated when the server instance is created in the WebSphere server. To determine the port value, select the server's name under **Servers > Application Servers** and click on **Ports**. The value to use in *portNumber* above is the port number for the SOAP_CONNECTOR_ADDRESS port name.

      The server name (*serverName*) is the server name displayed under **Servers > Application Servers**
   e. Save your changes, including saving to the master configuration, and then restart the servers in the cluster.

If you will be using DB2 Alphablox Cube Server's member caching in WebSphere vertical clusters, you need to set a JVM parameter for the location of the DB2 Alphablox Cube Server member cache directory for each server in the cluster.

To set the member caching directories for the nodes in the vertical cluster:

1. Log in to the WebSphere Administrative Console.
2. Under **Servers > Application Servers**, for each vertical node in the cluster, perform the following:
   a. Click the server's name.
   b. Select **Process Definition**.
   c. Select **Java and Process Management > Process Definition**.
   d. Select **Java Virtual Machine** and in the **Generic JVM arguments** field, type -Dabx.cubing.temp.directory=*memberCacheDirectory*.

      Note: The *memberCacheDirectory* must be unique for each vertical node in the cluster. The location for each vertical node's member cache directory must also be specified in the DB2 Alphablox Admin Pages under **Administration > General > General Properties > DB2 Alphablox Cube Manager**.
   e. Save your changes, including saving to the master configuration, and then restart the servers in the cluster.

Your WebSphere vertical clustering environment is properly configured to work properly with DB2 Alphablox Cube Server member caching.

Post-installation steps for WebLogic

If you are using DB2 Alphablox with a BEA WebLogic application server to connect to Oracle, make certain that you have the correct Oracle JDBC driver installed on WebLogic. WebLogic 8.1 ships the Oracle JDBC driver (920) installed in the following directory:

```
<bea_dir>\weblogic81\server\lib
```

Note: For information on proxying requests from Apache HTTP Server or Microsoft IIS to the BEA WebLogic Server, refer to the BEA documentation, available at http://edocs.bea.com, and search using the keyword "plug-in." Follow the directions under "Proxy by path" for your specific web server. For a sample of all paths that need to be proxied, or for an example of an iisproxy.ini, refer to the following file:

```
<db2alphablox_dir>/conf/iisproxy.ini-alphablox
```
(this file is generated only on WebLogic installations).

Note: If you plan on running Microsoft IIS as the web server running behind WebLogic, and decide to use a request port other than the default one of 7001, you will need to edit the WebLogicPort parameter value, located in the following file:

```
<db2alphablox_dir>/conf/iisproxy.ini-alphablox
```

Microsoft IIS-specific post-installation steps

If you installed DB2 Alphablox on IBM WebSphere application servers and will be using Microsoft IIS as your Web server, see your application server's documentation for information about configurations with Microsoft IIS.

Using IIS with DB2 Alphablox 8.4.1 on Apache Tomcat 5.5 installations

To configure Microsoft IIS 5 or 6 with Alphablox 8.4.1 running on Apache Tomcat 5.5:

1. Start the Apache Tomcat server that is running DB2 Alphablox.
2. Download the *isapi_redirect.dll* file from the Apache download site for connector files (http://tomcat.apache.org/download-connectors.cgi).
3. Register the filter DLL.
   a. Open the Microsoft Internet Information Services Manager.
   b. Right-click on the Web site that you want to use with DB2 Alphablox and select **Properties**.
   c. Select the **ISAPI Filters** tab.
   d. Press the **Add** button and type jakarta as the filter name.
   e. Specify the path to the DLL executable. For example, c:\apache-tomcat-5.5.17\bin\win32\jk-1.2.15\isapi_redirect.dll.
   f. Ensure that the DLL is loaded successfully, as indicated by a green arrow.
4. Stop the IIS server. From the Windows **Services** control panel , select **IIS Admin Service** and press the **Stop** button.
5. Create the virtual directories required by DB2 Alphablox.

a. Run the IISVDGen batch file (*tomcat_dir\conf\auto\IISVDGen.bat*, where *tomcat_dir* is the directory in which Apache Tomcat 5.5 is installed).

   b. Type in the computer name, IIS installation directory, and the location where the ISAPI redirect DLL (*isapi_redirect.dll*) is stored.

6. [IIS 6 only] Enable permission for the ISAPI redirect DLL.

   a. Open the Microsoft Internet Information Services Manager.

   b. Select the Web service extensions item.

   c. Set the **All Unknown ISAPI Extensions** in the right panel to **Allow**.

7. Reboot the machine and then start the Apache Tomcat and IIS servers.

DB2 Alphablox can now be used with Microsoft IIS as your Web server.

Using IIS 6 with DB2 Alphablox 8.4 on Apache Tomcat 3.2.4 installations

If you installed Microsoft IIS 6 as your Web server, the installer will post a series of warning messages in the installation log. These messages can be resolved in the following manner.

Note:
If you installed DB2 Alphablox on an Apache Tomcat server and will be using IIS as your Web server, reboot the machine before following the steps below.

The following message might appear:

```
Microsoft IIS v6 does not allow programs to register filter DLLs.
In order to run DB2 Alphablox with IIS v6 you must manually register
scripts_dir/isapi_redirect.dll. See install documentation for more
information.
```

To resolve this message:

1. Open the Microsoft Internet Information Services Manager.

2. Select the Web site that you want to use with DB2 Alphablox, right-click and select **Properties**.

3. Select the **ISAPI Filters** tab.

4. Press the **Add** button and type a filter name (name does not matter) and executable which would be at *inetpub_dir*\scripts\isapi_redirect.dll.

The following warning message appears because the Scripts virtual directory needs to have executable rights:

```
Please make sure that you have an IIS virtual directory named 'Scripts'
that points to the <scripts_dir> directory. This virtual directory must be
set to have execute rights.
```

The following steps will give executable rights:

1. Open the Microsoft Internet Information Services Manager.

2. Select the Web site you want to use with DB2 Alphablox, right-click and select **New Virtual Directory**.

3. At the Virtual Directory Alias page, type Scripts.

4. At the Web Site Content Directory page, enter *scripts_dir*, usually <inetpub_dir>\scripts

5. At the Virtual Directory Access Permissions page, select **Read**, **Run Scripts**, and **Execute**.

The following warning message appears because by default, the ISAPI redirect DLL (`isapi_redirect.dll`) does not have permission to be executed:

```
By default Microsoft IIS v6 prohibits all unknown ISAPI extensions.
In order for DB2 Alphablox to work correctly with IIS, this setting
must be changed to 'Allow'. See install documentation for more information.
```

The following steps will give IIS the needed permission:

1. Open Microsoft's Internet Information Services Manager.
2. Select the Web service extensions item.
3. Set the **All Unknown ISAPI Extensions** in the right panel to **Allow**.

General configuration of IIS for DB2 Alphablox

Perform the following steps regardless of the version of IIS you are using:

1. Shut down IIS. In the Services control panel window (not from the IIS user interface), select the **IIS Admin Service** and press the **Stop** button.
2. Run the following batch file to create the virtual directories required by DB2 Alphablox:

   db2alphablox_dir\bin\IISVDGen.bat

   where *db2alphablox_dir* represents the directory in which DB2 Alphablox is installed.

Configuring NTLM or other security with IIS and Alphablox (on Apache Tomcat)

For information about configuring NTLM or other security with DB2 Alphablox running on Apache Tomcat and using Microsoft IIS as the web server, see Setting Microsoft Security Options for IIS NTLM in the *Administrator's Guide*.

Configuring IIS, WebLogic, and DB2 Alphablox to support NTLM

Perform the following steps to configure the combination of Microsoft IIS, BEA WebLogic, and DB2 Alphablox to support NTLM authentication:

1. Ensure that you do not have the following item in the your Windows Registry: `HKEY_LOCAL_MACHINE/System/CurrentControlSet/ Servers/W3SVC/Parameters/Filter DLL`

   If you find it, delete it using the Registry Editor (regedit). This Registry item is set by the DB2 Alphablox installer if you install an DB2 Alphablox implementation using Apache Tomcat with IIS.
2. Copy the file `<alphablox>/conf/iisproxy.ini-alphablox` to `<bea_home>/weblogic81/server/bin`.
3. The `iisproxy.ini-alphablox` file is a template from DB2 Alphablox that is updated every time DB2 Alphablox creates or deletes an application. Rename it now to `iisproxy.ini`, removing the "`-alphablox`" at the end of the file.
4. For single server, use the following parameters in the `iisproxy.ini` file:

   `WebLogicHost=localhost`

   `WebLogicPort=7001`

   For cluster use the following parameters:

   `WebLogicCluster=localhost:7001,localhost:7002, othermachine:7001`
5. Start IIS administration.
6. Create new web site (or edit existing web site).

7. Add the filter, `iisforward.dll`, located under `<bea_home>/weblogic81/server/bin` to the web site using IIS admin.
8. Map `.wlforward` to use `iisproxy.dll`:
   a. Select the web site.
   b. Right-click and select the Properties menu item.
   c. Select Home Directory tab.
   d. Select the Configuration button.
   e. Select the Application Mapping tab.
   f. Click the Add button.
   g. Set Executable to be `<weblogic_dir>/weblogic81/server/bin/iisproxy.dll` and the extension to `.wlforward`. The `.wlforward` is mapped to `iisproxy`.
9. Enable security for the web site.
10. Restart IIS.
11. Remove all security constraints on all of the applications by using the WebLogic console to remove the security constraints and the login config. Alternatively, you can edit the `web.xml`, removing the `security-constraints` element and the `login-config` element as well as all security roles definitions.
12. Start IIS and the web site, and WebLogic.
13. Set up DB2 Alphablox to use the NTLMUserManager. After DB2 Alphablox has started successfully; do the following:
    a. Connect to telnet console (not HTML)
    b. Run the following commands:

       ```
       ExtUserManager umclassname
       com.alphablox.personalization.ntlm.NTLMUserManager
       ExtUserManager userclassname
       com.alphablox.personalization.ntlm.NTLMUser
       ```

    c. Save.
    d. Stop user.
    e. Start user.
14. Go to the DB2 Alphablox Admin Pages using IIS.

This setup now enables IIS to manage security and DB2 Alphablox to get the user name from IIS.

General post-installation tasks

Perform the following tasks after installing DB2 Alphablox:

Installing the DB2 Alphablox Information Center

By default, the DB2 Alphablox installation uses links and shortcuts to access a remote DB2 Alphablox Information Center and Javadoc documentation hosted by IBM. If you have requirements or preferences for installing the information center on your local system or an intranet server, you can choose to install the DB2 Alphablox Information Center to either an existing DB2 Alphablox installation or as a standalone Information Center. After running the Information Center installer to a local DB2 Alphablox installation, all links and shortcuts will reference the local Information Center.

To install the DB2 Alphablox Information Center to either an existing DB2 Alphablox installation or as a standalone Information Center:

1. Run the installer located on the DB2 Alphablox Documentation CD.
2. Click **Next** on the welcome window.
3. Select the type of installation you want to install.
   - **Install under an existing Alphablox installation**: Select this option if you want the Information Center to be installed as part of your DB2 Alphablox installation.
   - **Install as a standalone Information Center**: Select this option if you do not have DB2 installed on your machine.
4. Click **Next**.
5. Select a directory where you want the Information Center installed.
   - If you are installing to an existing DB2 Alphablox installation, select the DB2 Alphablox installation directory (for example, *C:\alphablox\analytics*).
   - If you are installing a standalone Information Center, accept the default directory or use the **Browse** button to install to a different directory.
6. Click **Next** and select the listening port. The default **Port** value is *52000*.
7. Click **Next** and select the information units that you want to install for the IBM DB2 Information Center. All of the available information units are selected by default.
8. Click **Next** and review the installation summary screen.
9. Click **Next** and the installation begins.
10. After the installation is complete, click **Finish**.

If you installed the Information Center to an existing DB2 Alphablox installation, you can start and access the Information Center links using the Documentation menu of the IBM DB2 Alphablox menu. For a standalone installation, you can start and access the Information Center under the IBM DB2 Alphablox Online Documentation menu.

Saving your original configuration files

Important: During installations, the installer backs up `server.xml` and `web.xml` files in the same directory as the original files, appending them with the `.AlphabloxBackup` extension (`server.xml.Alphabloxbackup` and `web.xml.AlphabloxBackup`). If you have made changes to these files, you will need to merge the changes manually. The installer maintains a single backup copy of these files, overwriting older backup copies.

Creating a Microsoft SQL Server-based DB2 Alphablox Repository for multiple locales support

After installing DB2 Alphablox using the file-based repository option, you need to follow this procedure to create a DB2 Alphablox Repository using a Microsoft SQL Server database repository that supports multiple locales. This procedure modifies the DB2 Alphablox Repository to use NVARCHAR fields instead of VARCHAR fields.

To configure DB2 Alphablox to support multiple locales in a Microsoft SQL Server-based DB2 Alphablox Repository:

1. Install DB2 Alphablox, selecting the file-based repository option.
2. Start and stop DB2 Alphablox to check for errors in the installation.

3. Edit the *mssql.dmlsql* and *mssqlv2005.dmlsql* files, located in the *db2alphablox_dir/repository/servers/* directory, where *db2alphablox_dir* is the directory in which DB2 Alphablox is installed .

   a. Find the lines that start with DDL and change all instances of VARCHAR to NVARCHAR.

   b. Save your changes.

4. Run the Repository Conversion Utility to migrate from a file repository to a DB2 Alphablox Repository using a Microsoft SQL Server database. For details on using the Repository Conversion Utility, see the *Administrator's Guide* > Using a Database Repository > Configuring the DB2 Alphablox Repository > Using the Repository Conversion Utility topic.

5. Start the Microsoft SQL Server Enterprise Manager and examine all DB2 Alphablox tables to ensure that there are no VARCHAR fields (only NVARCHAR fields should be displayed).

The DB2 Alphablox Repository, using a Microsoft SQL Server database, will now support multiple locales.

Starting DB2 Alphablox

Run the following steps to startup and verify your DB2 Alphablox installation:

- If you are running DB2 Alphablox behind an application server cluster, you must start the lead node of your cluster before you attempt to start your normal nodes.

- If you are installing behind IIS, make sure you start DB2 Alphablox before you start IIS. To shut down IIS, start the Microsoft Management Console, then stop the default web site (for example, by clicking the Stop button).

  Important: DB2 Alphablox must be started the first time **before** IIS is running at all. When DB2 Alphablox starts the first time, it create a few files that IIS will be looking for when IIS starts up. After DB2 Alphablox is running for the first time, then start IISAdmin from the Windows Services control panel, then (if necessary) start up page serving from the Internet Information Services manager.

  If IIS was already running before DB2 Alphablox was run for the first time and DB2 Alphablox application pages will not load properly, simply stop and restart IIS as described above.

- If you installed DB2 Alphablox on Apache Tomcat and are using either Apache HTTP Server or Sun iPlanet as a Web server, make sure that Apache or iPlanet is stopped before you start DB2 Alphablox for the first time. Wait until the **DB2 Alphablox started** message appears before starting Apache or iPlanet.

- Start DB2 Alphablox.
  - If you are running DB2 Alphablox on a WebSphere or WebLogic application server, start the instance of the application server in which DB2 Alphablox is installed.
  - If you are running DB2 Alphablox 8.4.1 on Apache Tomcat 5.5, start the instance of the application server in which DB2 Alphablox is installed.
  - If you are running DB2 Alphablox 8.4 on Apache Tomcat 3.2.4, you can start DB2 Alphablox from the Windows **Start** menu or, on Linux and UNIX systems, by running the StartAlphablox.sh script.

- If you have installed DB2 Alphablox on Apache Tomcat and are using Apache HTTP Server as your Web server, start your Apache HTTP Server.

- Verify that DB2 Alphablox is running. If you are able to log in to the DB2 Alphablox home page, the server is running.

Running DB2 Alphablox on Linux or UNIX using servers without graphics cards or using remote telnet

To run DB2 Alphablox on a Linux or UNIX server that does not have a graphics card (often known as a headless server), or if you plan to telnet into a server that does not have a graphics card installed, you must have the X11 libraries installed. Without the X11 libraries installed, DB2 Alphablox will not start properly and will not be able to generate charts for display in Blox components.

Also, if your DB2 Alphablox server is headless, then you must also start the application server's Java VM using the following JVM argument:

```
-Djava.awt.headless=true
```

Checking installation and server logs

The DB2 Alphablox installation process creates a series of log files. Use the following steps to ensure that the process went smoothly:

1. Check the installation log file for any errors. For Apache Tomcat 3.2.4 installations, you can display the log file on Windows using **Start** > **All Programs > DB2 Alphablox** > *InstanceName* > **DB2 Alphablox Installation Log**, or for all Apache Tomcat installations, you can view the log file by opening the following file in a web browser window:

   ```
   <db2alphablox_dir>/alphablox_install_log.html
   ```

   where <db2alphablox_dir> represents the root directory where DB2 Alphablox is installed.

2. If the installation log file contains any errors or warnings about conflicting DLL files for DB2 OLAP Server or Essbase, contact DB2 Alphablox Customer Support.

3. If you specified a port number other than 80 on the installation, the installation log file displays a warning message. This message is expected and is used to log that a port number other than the default was selected.

4. Review the server log file (the default name is server.log), which contains a log of DB2 Alphablox installation events. The log files are located in the following directory:

   ```
   <db2alphablox_dir>/repository/servers/<instance_name>/logs
   ```

   Note: During the installation, the update console command is automatically run on DB2 Alphablox. The update command performs system maintenance tasks. If the command failed for some reason, it would be logged with an error message explaining why it failed in the server log file. If there are no error messages, then the command was successful. If you find that the update command has failed, correct the problem and run it again by running the following command from a console window:

   ```
   update
   ```

MIME settings

The MIME settings on your web server must have the following configured for XML files:

```
xml=text/xml
```

Security and authentication configuration

The following steps address connectivity configuration procedures:

1. See the *Administrator's Guide* for special security considerations.
2. If you are connecting to a Sybase database server, you must run the appropriate SQL script before you can connect. For details, see the *Administrator's Guide*.
3. Use the DB2 Alphablox Administration pages to establish appropriate access privileges for end users and developers. See the *Administrator's Guide* for details.
4. Use the DB2 Alphablox Administration pages to define users, groups, roles, data sources, and applications. See the *Administrator's Guide* details.

Running a database-based DB2 Alphablox Repository using a different schema

Based on your requirements, you might need to create tables for a database-based (instead of file-based) DB2 Alphablox Repository with one user and use the DB2 Alphablox Repository with a different user. During the installation of DB2 Alphablox using a database-based DB2 Alphablox Repository, you should have provided the username and password for the owner of the DB2 Alphablox Repository tables. After installing DB2 Alphablox, you can run the Repository Conversion Utility (see the *Administrator's Guide* for details) to change the database schema and user for your databased-based DB2 Alphablox Repository. The Repository Conversion Utility can be found in *db2alphablox_dir/tools/convert* directory of your DB2 Alphablox installation.

To convert the DB2 Alphablox Repository to be used with a different schema and user:

1. Start DB2 Alphablox and verify that the installation process was successful.
2. Stop DB2 Alphablox.
3. Start the Repository Conversion Utility and select the "Change DB2 Alphablox to use a different repository" option.
4. At the appropriate prompts, enter the schema and the user to be used.
5. Start DB2 Alphablox.
6. Open a web browser to the DB2 Alphablox Admin Pages and verify the Repository Manager settings for the correct user and schema.

The DB2 Alphablox Repository will now use the schema and user you specified.

Migrating a DB2 Alphablox Repository to support multiple locales

Prior versions of DB2 Alphablox created file-based DB2 Alphablox Repository implementations using the server's default locale. Starting with DB2 Alphablox 8.4, you can migrate your file-based DB2 Alphablox Repository to support multiple locales. After installing DB2 Alphablox, you can run the NativeConverter utility to add support for multiple locales to your file-based DB2 Alphablox Repository.

To migrate the DB2 Alphablox Repository to support multiple locales:

1. Locate the NativeConverter utility (*NativeConvert.bat* for Windows; *NativeConverter.sh* for Linux and UNIX) can be found in *db2alphablox_dir/ analytics/bin* directory of your DB2 Alphablox installation.
2. Using a command console window, run the NativeConverter utility, using the following syntax.

```
NativeConverter.bat pathToRepository skipExistFile
   [-s sourceEncoding -t targetEncoding]
```

where *pathToRepository* is the relative or absolute path to the DB2 Alphablox Repository and *skipExistFile* is the location of the file listing files to be excluded from migration.

For example, on a Windows installation, if you open a command console in the DB2 Alphablox bin directory (*db2alphablox_dir/bin*), you would enter and run the following command:

```
NativeConverter.bat ../repository skipExistFile.txt
   [-s sourceEncoding -t targetEncoding]
```

Your file-based DB2 Alphablox Repository is now migrated to support multiple locales with DB2 Alphablox 8.4.

Configuring PDF printing on clustered server configurations

If you are running DB2 Alphablox behind a WebLogic or WebSphere cluster, you need to identify a shared folder on all the nodes of your cluster where your PDF files should be stored. Perform the following post-installation steps to set up the PDF printing feature:

1. Shut down your WebLogic or WebSphere cluster.
2. If you are using WebLogic, will need to edit the `web.xml` file on your administration server. If you are using WebSphere, you need to edit the `web.xml` file on every node in your cluster. The `web.xml` file is located in the following directory:

   ```
   <db2alphablox_dir>\system\AlphabloxPlatform\AlphabloxServer\WEB-INF\
   ```

   Change the value of the `PdfTemporaryArea` tag to point to a mounted drive where your want your PDF temporary files to be stored:

   ```
   <context-param>
       <param-name>PdfTemporaryArea</param-name>
       <param-value>@PDF_TEMPORARY_AREA@</param-value>
       </context-param>
   ```

   Change `@PDF_TEMPORARY_AREA@` to the name of the shared mounted drive. For example (on Windows):

   ```
   <context-param>
       <param-name>PdfTemporaryArea</param-name>
       <param-value>P:\PDFTempDir</param-value>
       </context-param>
   ```

   where `P:\PDFTempDir` is the shared folder on system.
3. On each of your WebLogic Managed Servers, map/mount a drive to point to the logical partition where your PDF temporary files were specified in your administration server's `web.xml` file. In the previous example on Windows, you would map the `P:\` network drive on your Managed Server, and it would point to the system and logical partition where your `\PDFTempDir` directory is located.
4. Restart your cluster, it should now be aware of the new property.

Wrapping up your installation

Check the DB2 Alphablox *Release Notes*. To access the *Release Notes*, open the DB2 Alphablox Online Documentation and click the *Release Notes* link in the table of contents, or use the shortcut on the Windows **Start** menu. The *Release Notes* contain information that may not be included elsewhere in the Online Documentation, as well as descriptions of potential problems and available workaround for the current version.

Post-installation notes

Note the following after you have successfully installed DB2 Alphablox:

- The default username is: **admin**, or the username you designated.
- The default password is: **password**, or the password you specified.

  Be sure to change the password as soon as possible.
- The default ports are as follows:

  Request Port: 80 (or whatever your application or web server is set to)

  Telnet Console Port: 23
- Start DB2 Alphablox.
  - [WebSphere/WebLogic] Start the application server to start up DB2 Alphablox. For WebSphere running on Windows, you can select **Start > All Programs > IBM WebSphere > Start the Server**.
  - [Apache Tomcat 5.5 with Alphablox 8.4.1] Start the application server to start up DB2 Alphablox.
  - [Apache Tomcat 3.2.4 with Alphablox 8.4] On Windows, select **Start** > **All Programs > DB2 Alphablox** > *<InstanceName>* **> Startup DB2 Alphablox**.
- To access the DB2 Alphablox home page, enter the following URL in a browser window:

  `http://<serverName>/AlphabloxAdmin/home/`

  where <serverName> represents the name of the server and port number on which DB2 Alphablox runs.
- Contact DB2 Alphablox Customer Support if you need further assistance.

Uninstalling from Windows

To uninstall DB2 Alphablox, perform the following steps:

1. Shut down DB2 Alphablox, if it is running.
2. Open the Windows Control Panel from the Windows **Start**, **Settings**, **Control Panel** shortcut.
3. Double click the **Add/Remove Programs** control panel document.
4. Under the **Install/Uninstall** tab, select DB2 Alphablox and click the **Add/Remove** button.
5. Press the **Yes** button to confirm that you want to uninstall DB2 Alphablox.
6. Click the **OK** button to close the **Add/Remove Programs** control panel document.
7. Delete the *<db2alphablox_dir>* directory (the directory in which Alphablox was installed) from the drive in which it was installed.
8. WebSphere users: Remove the AlphabloxPlatform and ApplicationStudio applications from your WebSphere application server.

Note: If DB2 Alphablox was running as a service during the uninstallation process, the DB2 Alphablox service is not completely removed from the services list until you reboot the computer.

Uninstalling from Linux and UNIX systems

Perform the following to uninstall DB2 Alphablox on a Linux or UNIX system:

1. Open a Linux or UNIX shell as a user who has permissions on everything in the directory in which DB2 Alphablox is installed.

2. In a Linux or UNIX command window, navigate to the parent directory in which DB2 Alphablox is installed.

3. Backup any applications you want to save.

4. If you have saved anything you want to keep in the `<db2alphablox_dir>/repository` directory, back up the `repository` directory.

5. Run the following command to uninstall DB2 Alphablox:

   `<db2alphablox_dir>/UninstallerData/Uninstall_IBM_DB2_Alphablox`

6. Enter the following command to remove the DB2 Alphablox installation:

   `rm -rf <db2alphablox_dir>`

   If the directory is too large, you may have to first delete individual directories below the DB2 Alphablox directory.

   Important: This permanently removes the DB2 Alphablox installation, potentially including any DB2 Alphablox applications you have created; you must reinstall DB2 Alphablox in order to use it again.

7. WebSphere users: Remove the AlphabloxPlatform and ApplicationStudio applications from your WebSphere application server.

Loading sample data

DB2 Alphablox ships with data to load a sample database for a fictitious company named the Quality Chocolate Company (QCC). The Blox Sampler, a set of examples available from the Assembly tab of the DB2 Alphablox home page, uses the QCC data. There are versions of the QCC data available for many different database platforms, both multidimensional and relational.

The QCC data is available on the DB2 Alphablox CD-ROM. For instructions on loading the QCC data on your database, see the following file:

`<CD-ROM_dir>/sampledata/readme.html`

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Program Number: 5724–L14

Printed in USA