IBM DB2 Alphablox

Troubleshooting and Support

Version 84

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Note:
Before using this information and the product it supports, read the information in "Notices" on page 15.

Contents

Chapter 1. Troubleshooting applications

Troubleshooting applications can be the most difficult task for an application developer. This chapter includes tips and techniques for troubleshooting some commonly encountered application development issues.

Errors in JSP files

Working with JavaServer Pages is more complicated than working with standard HTML pages. When a JSP page is run for the first time, the page needs to be compiled before you can view the page. During compilation and when pages are executed, you may encounter compilation and runtime errors. And, using JSP custom tag libraries and Java™ coding adds complexity to troubleshooting. For details about troubleshooting Java and JSP files, see a good book or online resources. The sections below briefly discuss error types, how to work with tag modifications, and other issues frequently encountered when working on DB2® Alphablox applications.

Compilation errors

During compilation of JSP pages, errors can occur due to the code not following required language syntax. If such an error occurs, the Java compiler will point out that error, so they are usually easy to find and fix. Most of the time the error messages are useful and lead you right away to the source of the problem. Even if an error page is referred to on a JSP page, if there is a compilation error, it cannot be invoked since the page did not compile.

Runtime errors

Runtime errors occur when the code compiles correctly, but does not execute in a way that was expected. In DB2 Alphablox applications, this can happen for many different reasons, for example, when a DataBlox cannot connect or when a scriptlet throws an exception during execution. Exceptions thrown during runtime errors can be captured and displayed in custom error pages, if the problematic JSP page has an error page reference. Without a custom error page, the standard JSP error message will appear.

JSP error pages

If your JSP pages reference a custom error page and a runtime error occurs with an exception being thrown, the custom error page can handle the error page and display a customized view of the exception. It is a best practice to include custom error pages to handle runtime errors that may occur in your applications. To learn more about custom error pages, see Error Handling section in the *Developer's Guide*. Included is a task describing how to create a simple custom error page. Also, refer to a good JSP book for more tips about creating and using custom error pages.

Blox tag behavior

Although JSP custom tags are similar to HTML tags, they behave differently. Any code within a Blox tag is interpreted only the first time the page is loaded. Thus, any changes to the tags or scriptlets included within the tags are ignored on reloading since Blox tags have a session scope.

When Blox are instantiated, outer tags are interpreted before inner tags. Thus, if you have a PresentBlox tag with nested DataBlox or other tags, the PresentBlox container is created first, followed by the nested Blox.

Testing Blox tag modifications

To test page modifications within Blox tags, you can use the following methods:

- Close the browser and reload the page in a new browser session. The page should be recompiled again.
- Open a telnet session to DB2 Alphablox and get your session number by entering the following server console command:

  `show session`

  Then, kill the session (be careful to kill only your session) by entering this command:

  `kill session sessionID`

  where *sessionID* is the number for your session. Then, refresh your browser window. The page should now compile again.

Common Blox tag errors

Included in the following list are the most frequently encountered errors that you are likely to encounter when working with the Blox tag library. In the exception messages included below, only the first line is shown; the stack trace is not included.

Forgetting to include the taglib directive

If you forget to place the required taglib directives at the top of your JSP page, none of the Blox tags will be recognized. The rest of the page may load, but without the taglib directives, you may only see the HTML elements and text.

There are six tag libraries in the DB2 Alphablox Tag Libraries. Make sure you include the taglib directives for the tag libraries you need:

Tag Library	Description	JSP taglib Directive
Blox Tag Library	Tags for adding the core Blox for data access, data presentation, and analytic infrastructure.	`<%@ taglib uri="bloxtld" prefix="blox"%>`
Blox UI Tag Library	Tags for modifying Blox user interface beyond Blox properties and for adding custom analysis functionality	`<%@ taglib uri="bloxuitld" prefix="bloxui"%>`
Blox Form Tag Library	Tags for adding HTML form-like user interface in your JSP and linking the forms to server-side components or other form components on the page without page refreshes.	`<%@ taglib uri="bloxformtld" prefix="bloxform"%>`
Blox Logic Tag Library	Tags for adding business logic Blox-- TimeSchemaBlox, MDBQueryBlox, and MemberSecurityBlox	`<%@ taglib uri="bloxlogictld" prefix="bloxlogic"%>`

Tag Library	Description	JSP taglib Directive
Blox Report Tag Library	Tags for adding ReportBlox and its supporting Blox for creating relational reports	`<%@ taglib uri="bloxreporttld" prefix="bloxreport"%>`
Blox Portlet Tag Library	Tags for facilitating the creation of portlet links and action links in Blox or Blox UI components.	`<%@ taglib uri="bloxportlettld" prefix="bloxportlet"%>`

Incorrect case of a tag or tag attribute

Case and spelling errors will result in compilation errors. In these cases, the JSP compiler will throw an exception indicating that an invalid tag or tag attribute has been used. For example, if you spelled `dataSourceName` incorrectly as `datasourceName`, in the exception you should see a message that includes the following line:

```
org.apache.jasper.compiler.CompileException:
   C:\alphablox\webapps\MyTests\example.jsp(20,1) Attribute datasourceName
      invalid according to the specified TLD
```

Notice that this message also includes the line number.

Leaving off required quotes

If your tag attribute is missing a required quote around a tag attribute value, like this:

```
dataSourceName=QCC-Essbase"
```

you will see a message like the following in the JSP compiler exception message:

```
org.apache.jasper.compiler.ParseException:
  C:\alphablox\webapps\MyTests\example.jsp(21,17)
     Attribute value should be quoted
```

Although, it doesn't indicate which attribute is missing a quote, it does tell you that it occurs on line 21.

Failing to include required tag attributes

If you accidentally leave out a required tag attribute, an exception error will occur. For example, leaving out the `dataSourceName` on a DataBlox tag will generate this message:

```
javax.servlet.ServletException: Required property 'dataSourceName'
of Blox 'CommonPresentBlox_data' does not have a value
```

Using an invalid data source

When you have an nonexistent or misspelled data source, you will see a runtime exception like the following:

```
javax.servlet.ServletException: Cannot find datasource: 'CC-Essbase'
```

If you think the data source is spelled correctly, check for a data source definition in the DB2 Alphablox Admin pages. You may have forgotten to create it, or it may have been deleted.

Refreshed page doesn't reflect code modifications

As mentioned earlier, Blox tags and JSP statements within these tags are interpreted only the first time a page is loaded. Read the "Blox tag behavior" on page 1 above to learn more about expected tag behavior and how to efficiently test code changes within tags.

Page loaded in new session still doesn't reflect code changes

This problem can be particularly frustrating. Sometimes, a cached, compiled Java class file will not be removed automatically from the cache. In situations like this, or when everything else seems to fail, try deleting these files, and restarting the server.

Depending on your DB2 Alphablox configuration, these cached Java class files are located in different directories, as follows:

IBM® WebSphere® Server:
```
/Websphere/AppServer/temp/<nodeName>/<serverName>/
   <enterpriseAppName>/<appName>
```

DB2 Alphablox using Apache Tomcat application server:
```
/alphablox/appserver/work/
```

BEA WebLogic:
```
<applicationDocBase>/WEB-INF/
   _tmp_war_<serverName>_<appName>/jsp_servlet
```

Shut down your server, then open the directory for storing cached JSP files, and delete all files within this folder. Then, restart the server. This should guarantee that fresh copies of your JSP pages will compiled (unless, of course, an exception is thrown).

The Blox debug tag

The Blox debug tag can be added to a JSP file to help you troubleshoot problems. To use this tag, include the following line in your JSP page:
```
<blox:debug/>
```

When included on a JSP page with Blox on them, useful debugging information will be sent to the system console (not to a telnet session). Starting immediately where this tag occurs on a page, the system console will begin listing information about Blox tags, including their attribute and property settings. This may be handy for verifying how DB2 Alphablox is interpreting the values you've included for properties and attributes.

Following is a sample listing of the debugging information provided in the system console when the Blox debug tag is included on a JSP page:
```
-> Starting Blox Tag:
   com.alphablox.server.tags.simple.miscTags.DebugTag
   Blox Tag Lib version 1.0 loaded
<- Ending Blox Tag: com.alphablox.server.tags.simple.miscTags.DebugTag
-> Starting Blox Tag: com.alphablox.server.tags.simple.createTags.PresentTag
 - Attribute Id = CommonPresentBlox
 - Attribute DividerLocation = .5
 - Attribute Height = 450
 - Attribute Width = 650
 - Attribute SplitPane = true
```

```
          Creating Blox for CommonPresentBlox
   - Set property on blox CommonPresentBlox: dividerLocation = .5
   - Set property on blox CommonPresentBlox: height = 450
   - Set property on blox CommonPresentBlox: splitPane = true
   - Set property on blox CommonPresentBlox: width = 650
  -> Starting Blox Tag:
     com.alphablox.server.tags.simple.createTags.DataTag
   - Attribute SelectableSlicerDimensions = 'All Locations'
   - Attribute Query = <ROW ('All Products') <ICHILD 'All
     Products' <COLUMN ('All Time Periods') <CHILD 'All Time
     Periods' <PAGE (Measures) Sales !
   - Attribute DataSourceName = QCC-Essbase
     Creating Blox for CommonPresentBlox_data
   - Set property on blox CommonPresentBlox_data: dataSourceName =
     QCC-Essbase
   - Set property on blox CommonPresentBlox_data:
     selectableSlicerDimensions ='All Locations'
   - Set property on blox CommonPresentBlox_data: query = <ROW
     ('All Products') <ICHILD 'All Products' <COLUMN ('All Time
     Periods') <CHILD 'All Time Periods' <PAGE (Measures) Sales!
     Found Blox in session context for CommonPresentBlox
  <- Ending Blox Tag: com.alphablox.server.tags.simple.createTags.DataTag
  -> Starting Blox Tag: com.alphablox.server.tags.simple.createTags.GridTag
   - Attribute BandingEnabled = true
   - Attribute DefaultCellFormat = #,###
     Found Blox in session context for CommonPresentBlox
   - Set property on blox CommonPresentBlox_grid: bandingEnabled = true
   - Set property on blox
     CommonPresentBlox_grid:defaultCellFormat = #,###
  <- Ending Blox Tag: com.alphablox.server.tags.simple.createTags.GridTag
  -> Starting Blox Tag: com.alphablox.server.tags.simple.createTags.ChartTag
   - Attribute ChartType = Bar
     Found Blox in session context for CommonPresentBlox
   - Set property on blox CommonPresentBlox_chart: chartType = Bar
  <- Ending Blox Tag: com.alphablox.server.tags.simple.createTags.ChartTag
  <- Ending Blox Tag: com.alphablox.server.tags.simple.createTags.PresentTag
```

Use of ErrorBlox

You should specify an error handling page with every JSP page you create for
better error reporting, as described in "JSP error pages" on page 1. In Relational
Reporting, ErrorBlox catches the uncaught exceptions thrown and prints the details
in an HTML table using a Cascading Style Sheet. You can use ErrorBlox in any JSP
files as long as you have a taglib directive for the Blox Report Tag Library:

```
<%@ taglib uri="bloxreporttld" prefix="bloxreport" %>
```

or an import statement com.alphablox.blox.ErrorBlox:

```
<%@ page import="com.alphablox.blox.ErrorBlox" %>
```

See the Development and Troubleshooting Tips section in the *Relational Reporting
Developer's Guide* for more details on ErrorBlox and troubleshooting tips related to
ReportBlox.

DB2 Alphablox console messages

The DB2 Alphablox system and telnet consoles can be helpful in debugging
problems with your JSP files. You can use the server console for viewing system
properties, including information about services, users, sessions, and history.

The default message level for DB2 Alphablox is INFO, which displays minor system events for which no administrator action is necessary. For debugging purposes, you can set the message level to DEBUG, which will result in debug information being sent to the system console.

To learn more about DB2 Alphablox console commands and messages, see the *Administrator's Guide*.

Chapter 2. Troubleshooting data connection

This section describes common data connection errors, likely causes, and ways to correct the problems.

Unrecognized command 10075

The error "unrecognized command 10075" when connecting to DB2 OLAP Server™ or Hyperion Essbase is typically due to using a DB2 Alphablox Essbase bridge or client that is out of sync with the server.

For example, if you are using an DB2 Alphablox 6.5 bridge (for DB2 OLAP Server v8.1 or Hyperion Essbase v6.5) and attempt to connect to a DB2 OLAP Server v7.1 or Hyperion Essbase v6.1 server, you would get this error. It is recommended that version of the DB2 OLAP Server or Hyperion Essbase client or the DB2 Alphablox Essbase bridge be in sync with the server. You can not use a newer client or Essbase bridge to connect to an older server.

To correct this problem, run the Essbase Client Library Utility. The `ChangeEssbase.bat` batch file or `ChangeEssbase.sh` is located in the *alphablox_dir*/bin. See the *Administrator's Guide* for details.

Not found exceptions

When you connect to DB2 OLAP Server or Hyperion Essbase data sources, if you encounter com.alphablox.util.NotFoundException, the errors are often one of the following two:

- Unable to connect: com.alphablox.util.NotFoundException: no EssbaseNative in java.library.path
- Unable to connect: com.alphablox.util.NotFoundException: ...\tools\essbase\65\EssbaseNative.dll

No EssbaseNative in java.library.path

This is because DB2 Alphablox cannot find the `EssbaseNative.dll` or `libEssbaseNative.so` file. Check that your PATH environment variable contains the directory where your specific Essbase bridge is.

Can't find dependent libraries

This happens when DB2 Alphablox has found the `EssbaseNative.dll` or `libEssbaseNative.so` file, but cannot find the Essbase Runtime client libraries. This means that the ARBORPATH environment variable has been set incorrectly. Check that the `essbasesetup.bat` or `essbasesetup.sh` file in the `bin` directory of your DB2 Alphablox installation has set the ARBORPATH variable to the correct directory.

Provider cannot be found

When connecting to Microsoft® Analysis Services (MSAS) data sources, if you get the following exception, the problem may be due to a number of different reasons.

```
javax.servlet.ServletException: Provider cannot be found. It may not be properly
installed. [NotAuthorizedException, Thrown in: ODBOBridge.connect(Native Method
com.alphablox.util.NotAuthorizedException: Provider cannot be found.
It may not be properly installed.
```

These reasons are typically environmental.

Conflicting MSAS .DLL files

The most common source of the "Provider cannot be found" message is that DB2
Alphablox is run on a Windows® 2000 system with multiple Microsoft applications
installed, and the applications use different versions of Pivot Table Service or
Microsoft Data Access Components (MDAC) .DLL files. For example, this can
happen when the system has DB2 Alphablox, Microsoft Office, the MSAS sample
application installed and each installs its Pivot Table Services or MDAC .DLL files.

The solution is to upgrade the DB2 Alphablox host system to Windows 2000 SP3.

Note: If you subsequently install, reinstall, or uninstall some application that again
installs its Pivot Table Service or MDAC .DLL files, it is expected that the
problem will reoccur. In that case, you will need to reapply Windows 2000
SP3.

Connecting as a local user without administrator privileges

Another source of the conflict is when MSAS and DB2 Alphablox are installed on
the same machine, and the user who is connecting is a local user rather than a user
in the MSAS administrators group. The message generally indicates a situation in
which there is a hung or locked thread in the DLL files for Microsoft Pivot Table
Services.

In this case, you will see this happen consistently when you connect to your
second Blox components within the session. Restarting DB2 Alphablox generally
resolves the issue because all the threads that DB2 Alphablox spawned are killed.

Verifying the user who is connecting

If you want to know the details on connections made to the Microsoft OLAP
Server, you can set the OLAP Server to log every connect and disconnect event to
the Windows NT® Event Log. By default these events are not logged. To do so, go
to registry entry at

```
HKeyLocalMachine\SOFTWARE\Microsoft\OLAP Server\CurrentVersion\AuditEvents
```

The default value set up by the installation program is 0xd (13). This entry controls
which events are to be logged by the OLAP Server into the Windows NT Event
Log. Every bit controls one type of event as following:
- 0x1 - Starting or stopping server
- 0x2 - Connect or disconnect
- 0x4 - Security events
- 0x8 - Relational database error messages

Therefore, to enable logging of user connect and disconnect events, you should
change this value to 0xf (15).

A required privilege is not held by the client

This is related to Microsoft Analysis Services and SAP BW data sources. The complete error message is: "Unable to connect: com.alphablox.util.NotAuthorizedException: A required privilege is not held by the client."

This is likely caused by the fact that the user who starts up DB2 Alphablox is missing the "Act as part of the operating system" privileges on the machine where DB2 Alphablox is installed. For SAP BW, if you do not have the required SAP client installed, or the username and password specified for SAP are incorrect, you will encounter the same error. Username and password in SAP are case-sensitive.

Logon failure: unknown user name or bad password

This is related to Microsoft Analysis Services (MSAS) data sources. The complete error message is "Unable to connect: com.alphablox.util.NotAuthorizedException: ODBO authentication error. Logon failure: unknown user name or bad password."

When this happens, check to see if a corresponding MSAS user exists in the MSAS database. The username used by DB2 Alphablox to access the data source needs to be a domain user or a user from a domain on the machine where DB2 Alphablox is installed.

No ODBOBridge in java.library.path

This is related to Microsoft Analysis Services data sources. The complete error message is "java.lang.UnsatisfiedLinkError: no ODBOBridge in java.library.path."

DB2 Alphablox cannot find the ODBOBridge.dll file. The ODBOBridge.dll file is usually located in the *alphablox_dir*/bin/ directory. Check that your PATH environment variable contains the *alphablox_dir*/bin/ directory.

Chapter 3. Troubleshooting the server

This section describes common server problems, likely causes, and ways to correct them.

Error 1100003 when starting DB2 Alphablox as a service

According to Hyperion Essbase documentation, error 110003 means "ESSG_ERR_INVALIDHANDLE." This is generally an issue with an Essbase `.dll` file. The most common source of the problem with DB2 Alphablox occurs when the ARBORPATH environmental variable is not set, or is pointing to the wrong version of the DB2 OLAP Server or Hyperion Essbase client libraries.

Make sure the DB2 OLAP Server or Hyperion Essbase libraries used by DB2 Alphablox are of the same version as the DB2 Alphablox DB2 OLAP Server or Hyperion Essbase bridge. The Essbase libraries pointed to by the ARBORPATH environmental variable should also exactly match the ones in your `wrapper.properties` file. If possible, this would also match your DB2 OLAP Server or Hyperion Essbase Server. If not, it must always be of a lesser version than your DB2 OLAP Server or Hyperion Essbase server.

To correct the problem, run the Essbase Client Library Utility. Go to the *alphablox_dir*/bin directory and run the `ChangeEssbase.bat` batch file or `ChangeEssbase.sh` shell script. See the Administrator's Guide for details.

Server crash

If your DB2 Alphablox runs on WebSphere Application Server v5.1.1, and the application server spontaneously dies, look for a file that records the thread dump. The JVM creates this file in the product's directory structure, with a name such as `javacore[number].txt`. For information on how to use and interpret the core dump, see "Using the thread dump" on page 12.

Server hang

If you are using WebSphere Application Server v5.1.1, in the case of a server hang, you can force an application to create a thread dump (or javacore).

1. Using the `wsadmin` command prompt, get a handle to the problem application server:

   `wsadmin>set jvm [$AdminControl completeObjectName type=JVM,process=server1,*]`

2. Generate the thread dump:

   `wsadmin>$AdminControl invoke $jvm dumpThreads`

3. Look for an output file in the installation root directory with a name like `javacore.date.time.id.txt`.

For information on how to use and interpret the core dump, see "Using the thread dump" on page 12.

Using the thread dump

If you are running WebSphere Application Server and the server crashes or hangs, get the thread dump to help detect the problem. See "Server crash" on page 11 and "Server hang" on page 11 for details if you are using WebSphere Application Server v5.1.1.

Once you have the thread dump, you can forward it to DB2 Alphablox Support and also browse it for clues.

- If the JVM creates the thread dump as it closes (that is, the thread dump is not manually forced), there might be "error" or "exception information" strings at the beginning of the file. These strings indicate the thread that caused the application server to die.
- The thread dump contains a snapshot of each thread in the process, starting in the section labeled "Full thread dump."
- Look for threads with a description that contains "state:R." Such threads are active and running when the dump is forced, or the process exits.
- Look for multiple threads in the same Java application code source location. Multiple threads from the same location might indicate a deadlock condition (multiple threads waiting on a monitor) or an infinite loop, and help identify the application code with the problem.

Chapter 4. Support

The DB2 Alphablox Information Center is available also in the PDF format. To access the Information Center from within DB2 Alphablox, select the **Information Center** link on the **Help** menu or from any help page on the DB2 Alphablox Home Page. For the most up to date information, go to the DB2 Alphablox library page at http://www.ibm.com/software/data/db2/alphablox/library.html. This page provides links to the Information Center, PDF files, and the Javadoc. An API change list, which is also in Javadoc format, provides details on any newly added, changed, deprecated or removed APIs since the previous release.

Contacting IBM

If you have a technical problem, please review and carry out the actions suggested by the product documentation before contacting DB2 Alphablox Customer Support. This guide suggests information that you can gather to help DB2 Alphablox Customer Support to serve you better.

For information or to order any products, contact an IBM representative at a local branch office. If you live in the U.S.A., you can call one of the following numbers:

* 1-800-IBM-SERV for customer support
* 1-888-426-4343 to learn about available service options

Product Information

If you live in the U.S.A., then you can call one of the following numbers:

* 1-800-IBM-CALL (1-800-426-2255) or 1-800-3IBM-OS2 (1-800-342-6672) to order products or get general information.
* 1-800-879-2755 to order publications.

http://www.ibm.com/software/data/db2/alphablox

Provides links to information about DB2 Alphablox.

http://www.ibm.com/software/data/db2/udb

The DB2 Universal Database™ Web pages provide current information about news, product descriptions, education schedules, and more.

http://www.elink.ibmlink.ibm.com/

Click Publications to open the International Publications ordering Web site that provides information about how to order books.

http://www.ibm.com/education/certify/

The Professional Certification Program from the IBM Web site provides certification test information for a variety of IBM products.

Note: In some countries, IBM-authorized dealers should contact their dealer support structure instead of the IBM Support Center.

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- Send your comments by electronic mail (e-mail) to comments@us.ibm.com. Be sure to include the name of the product, the version number of the product, and the name and part number of the book (if applicable). If you are commenting on specific text, please include the location of the text (for example, a title, a table number, or a page number).

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