DB2 Information Management

DB2 Information Management Software

Configuring Windows XP SP2 Firewall for DB2 UDB

About This Guide
This guide provides information for administrators who are installing or configuring DB2® Universal Database (DB2 UDB) on Service Pack 2 (SP2) for Microsoft® Windows® XP Home Edition and Windows XP Professional. This document focuses on the key procedures and recommendations that need to be implemented to ensure that DB2 UDB operates normally on this platform. For information about supported DB2 UDB editions on the Windows XP SP2 platform, please refer to the operating system prerequisites document referenced below.

Introduction
Microsoft Windows XP SP2 includes Windows Firewall. Windows Firewall is an enhanced version of Internet Connection Firewall (ICF). By default, Windows Firewall is enabled on computers that are running Windows XP SP2. Windows Firewall will block some network connections that use TCP/IP, Named Pipes and Multiprotocol Remote Procedure Call (RPC). This blocking will affect DB2 UDB servers, which listen on open ports for incoming client requests.

If you have an application that requires DB2 UDB to have access to the network by using TCP/IP, Named Pipes or RPC, you can use the procedures provided in the following section to open the required ports or specify program exceptions using the Windows Firewall Graphical User Interface (GUI). Alternatively, you can take and modify the sample scripts provided in the "Sample Script" section below. Running the script on the machine will open up the ports and allow program exceptions as needed.

Note We recommend that you create port and program exceptions on an as-needed basis only. These exceptions should be disabled once they are no longer needed to minimize security risk.

How to configure Windows Firewall to add a port exception for TCP
When you know what port DB2 UDB server is using, you can follow these steps to configure Windows Firewall to enable DB2 UDB server to listen on that port:

1. Click *Start***,** and then click *Run*.
2. In the *Run* dialog box, type Firewall.cpl, and then click *OK*.
3. In the *Windows Firewall* dialog box, click *Add Port* on the *Exceptions* tab.
4. In the *Add a Port* dialog box, type your port number in the *Port number* box, and then click the *TCP* button.
5. Type a name for the port in the *Name* box such as DB2_DAS, and then click *OK*.
6. On the *Exceptions* tab, you will see the new service. To enable the port, click to select the check box next to your new service, and then click *OK***.**

Note If you decide to disable the port, you can clear the check box next to your new service.

How to configure Windows Firewall to add a program exception
When you know what program DB2 UDB server is using, you can follow these steps to configure Windows Firewall to enable DB2 UDB clients to execute these programs on the server:

1. Click *Start*, and then click *Run*.
2. In the *Run* dialog box, type Firewall.cpl, and then click *OK*.
3. In the *Windows Firewall* dialog box, click *Add Program* on the *Exceptions* tab.
4. In the *Add a Program* dialog box, select the program from the program menu if it is there, otherwise, click *Browse*.
5. In the *Browse* dialog box, select the appropriate DB2 program from the directory: '%DB2PATH%\BIN\' where %DB2PATH% is the environment variable that is used to specify the directory path where DB2 is installed. The default Windows directory path is 'C:\Program Files\IBM\SQLLIB'.
6. Once you select the program, click *Open*.
7. On the *Exceptions* tab, you will see the new program with an adjacent check box next to it, click *OK*.

Note If you decide to disable the program, you can clear the check box next to your new program without having to completely delete the program from the list.

DB2® Universal Database Port and Program Usage
The following section provides details on which port and program exceptions you need to specify in the Windows Firewall configuration on each DB2 UDB server hosting machine to ensure proper operation of DB2:

1. DB2 Connect service (*db2syscs.exe*) allows remote clients to connect to DB2 servers.
2. DB2 Administration Server (DAS) uses port 523 to communicate with the DB2 UDB tools.
3. DB2 web update checks are performed by a service called 'Check for DB2 Updates'. This service should be in the programs list in the *Add a Program* dialog box. If it is not there, you can add the following program *db2updateutil.exe*, located in '%DB2PATH%\CFG\INSTALL'.

Problem Determination and Resolution
If you encounter a connection type error as the one shown below or a variant thereof, you need to find out which programs or ports are being blocked by your Windows Firewall. You can do so, by examining the Windows Firewall logs on the server; this is located in: %SystemRoot%\Windows\pfirewall.log. You can also check the box next to "*Display a notification when Windows Firewall blocks a program*" in the *Exceptions* dialog box. After you rerun your application or reissue the request, you will be notified of the program and port that are denied access to the server. You need to add these to the exceptions list to be able to run without interruption.

Typical DB2 Error Message
SQL30081N A communication error has been detected. Communication protocol being used: "TCP/IP". Communication API being used: "SOCKETS". Location where the error was detected: "". Communication function detecting the error: "connect". Protocol specific error code(s): "10060", "*", "*".
SQLSTATE=08001

The information in this article applies to:

- DB2® Universal Database Workgroup Server Edition
- DB2® Universal Database Workgroup Server Unlimited Edition
- DB2® Universal Database Workgroup Personal Edition
- DB2® Universal Database Workgroup Developer's Edition
- DB2® Universal Database Workgroup Personal Developer's Edition
- Microsoft® Windows® XP SP2

Sample Script
To create the script to enable or disable DB2 remote communications, follow these steps:

1. Start Notepad.
2. Copy and paste the following code into Notepad:
3. Save the file as *db2configfirewall.bat* under your Windows root directory.
4. To run the *db2configfirewall.bat* script, open a Command Prompt window and type *db2configfirewall* at the command prompt, and then press ENTER.

```
echo off
if "%1"=="-enable" goto enableDB2settings
if "%1"=="-disable" goto disableDB2settings
rem Usage

:Usage
echo "Usage: db2configfirewall -[enable | disable]"
echo "-enable  : Configure the firewall settings to allow DB2 communications for local subnet only"
echo "-disable : Configure the firewall settings to stop DB2 communications for local subnet only"
echo "      Note: To allow DB2 communications across-subnets, you can change the scope settings"
echo "      in this script.  The default settings allow communications in the local subnet only."
echo "      This program is be used at own risk.  Neither IBM nor the writer assume any liability."
goto Exit

:enableDB2settings
echo "Enabling DB2 tcp access for port 523 for local subnet only"
netsh firewall set portopening tcp 523 DB2_DAS ENABLE subnet
echo "Enabling DB2 named pipe and multiprotocol access for local subnet only"
netsh firewall set portopening tcp 445 DB2_NP ENABLE subnet
echo "Enabling DB2 program exception: db2syscs for local subnet only"
netsh firewall set allowedprogram $DB2PATH\BIN\db2syscs.exe db2syscs enable subnet
echo "Enabling DB2 program exception: db2update for local subnet only"
netsh firewall set allowedprogram $DB2PATH\CFG\INSTALL\db2updateutil.exe db2update enable
subnet
goto Exit
```

```
:disableDB2settings
echo Disabling DB2 tcp access for port 523 for local subnet only"
netsh firewall set portopening tcp 523 DB2_DAS disable subnet
echo Disabling DB2 named pipe and multiprotocal access for local subnet only"
netsh firewall set portopening tcp 445 DB2_NP DISABLE subnet
echo "Disabling DB2 program exception: db2syscs for local subnet only"
netsh firewall set allowedprogram $DB2PATH\BIN\db2syscs.exe db2syscs disable subnet
echo "Disabling DB2 program exception: db2update for local subnet only"
netsh firewall set allowedprogram $DB2PATH\CFG\INSTALL\db2updateutil.exe db2update disable
subnet
goto Exit

:Exit
netsh firewall show portopening
netsh firewall show allowedprogram
endlocal
```

References

- **DB2 Product Family:** **http://www.ibm.com/software/data/db2/**
- **DB2 Universal Database for Windows:** **http://www.ibm.com/software/data/db2/windows/**
- **DB2 Universal Database for Windows - operating system prerequisites:** **http://www.ibm.com/support/docview.wss?rs=71&uid=swg21176759**
- **Windows XP Service Pack 2 – Resources for IT Professionals:** **http://www.microsoft.com/technet/prodtechnol/winxppro/maintain/winxpsp2.mspx**