
OpenEdge Management Support for IPv6

This Web paper describes the enhancements incorporated into OpenEdge® Management Release 3.1C in support of TCP/IP version 6.

The changes are described in the following sections:

- [Specifying an IP version for underlying Java code in the AdminServer](#)
- [Creating or modifying a resource monitor for a scripted database](#)
- [Setting the database server group property for a managed database](#)
- [Log file updates](#)
- [Discovering network resources](#)

Please use the information provided in this Web paper in conjunction with the OpenEdge Management documentation available on the Product Software Developer's Network (PSDN) Web site (<http://www.psdn.com/library/kbcategory.jspx?categoryID=129>). The details included in this Web paper cover all IPv6-related updates for Release 3.1C; these updates will be incorporated into the OpenEdge Management documentation set on PSDN in a future release.

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Specifying an IP version for underlying Java code in the AdminServer

The AdminServer is implemented in Java. When you specify the `ipver` property (`-ipver`) as IPv4 or IPv6 on the command line, the system properties listed in [Table 1](#) are automatically set in the AdminServer's JVM.

Table 1: Java properties for IPv6

Define the property . . .	As . . .	To configure . . .
<code>java.net.preferIPv4Stack</code>	<code>false</code>	The AdminServer to communicate with both IPv4 and IPv6 hosts.
<code>java.net.preferIPv6Addresses</code>	<code>true</code>	The default preference of IPv6 addresses over IPv4 addresses if IPv6 is available on the host system. If the default hostname resolves to both an IPv6 address and an IPv4 address, the IPv6 address is selected.
	<code>false</code>	The default preference of IPv4 addresses over IPv6 addresses if IPv6 is available on the host system. The AdminServer will resolve the default hostname to an IPv4 address, even if an IPv6 address is configured.

Creating or modifying a resource monitor for a scripted database

When you create or modify a scripted database monitor (for a database running on a remote machine), you can now specify the correct TCP/IP version.



To create a resource monitor for a scripted database:

1. From the OpenEdge Management menu bar, choose **Resources>New Resource Monitor>Scripted Database**. The **Create Scripted Database Monitor** page appears:

The 'Create Scripted Database Monitor' dialog box contains the following fields and controls:

- Buttons:** Save, Cancel
- Properties Section:**
 - Name:** Text input field
 - Description:** Text area with expand/collapse arrows
 - Container:** Dropdown menu (selected: nbaspauldixp2)
 - Host:** Text input field
 - IP Address:** Text input field (note: Optional, may be left blank)
 - TCP/IP Version:** Radio buttons for IPv4 (selected) and IPv6
 - Database name:** Text input field (note: Specify complete path)
 - Enabled:** Checked checkbox
- Footer:** Progress Software Corporation (www.progress.com)

2. Provide the other properties, and select the **TCP/IP Version**.
3. Click **Save**. The scripted database's **Details** page appears:


The 'Scripted Database: NBD0CXP51.NH2007' details page shows the following information:

- Status:** Not Running (0 Seconds), Not Polled, Poll Count: 0, Fail Count: 0 (0.0%)
- Properties:**
 - Host: NBD0CXP5
 - IP Address: 172.18.106.144
 - Database name: NBD0CXP5\OpenEdge\WRK101C\NH2007
 - TCP/IP version: IPv4
- Database status:**
 - Database: Unknown
 - Monitoring Agent: Not Running
- Monitoring control:**
 - Control:** Stop monitoring agent
 - Maintenance Jobs:** Maintenance jobs associated with this database
 - Log File Monitor:** Log file errors on which to alert
 - Monitoring Plans:** Database conditions on which to alert
 - Configuration Advisor:** Suggests rule thresholds based on data in the trend database
 - Log File Viewer:** Examine the DB's log file
- Operational views:**
 - Vital Signs:** Summary of important DB information
 - Record and Index Activity:** I/O activity for tables and indexes
 - Transactions:** Database transactions
 - Page Writers:** Summary of Page Writer Activities
 - Storage Areas:** Storage Area and extent information and statistics
 - User Activity:** Connected users & user statistics
 - Locks and Latches:** Lock & Latch Activity Information
 - Memory Resources:** Summary of Buffers, Memory, etc.
- Informational views:**
 - Start Parameters:** Start parameters of the DB
 - General Details:** Start info, Backup info, other general DB info
- Advanced views (raw data):**
 - Raw VST Data:** Examine individual VST tables
 - Raw System Table Data:** Examine individual System tables
- Footer:** Progress Software Corporation (www.progress.com)

The TCP/IP version is now included in the **Properties** information. If there are both IPv4 and IPv6 addresses, the properties reflect that in the **IP Address** (and the information is stored in the `smdatabase.properties` file):

Properties	
Host:	jaguar-both
IP Address:	172.16.7.16,fd00:19d:808f:1:0:0:0:39
Database name:	/usr1/henning/test2
TCP/IP version:	IPv6

When you click **Control** from the **Database Details** page, the database's status information appears in the **Database Status** page:

 Scripted Database: NH2007					
Scripted Database status					
Database:	PID	State	CPU Use	Memory Use	Started
Monitoring agent:	N/A	Unknown	N/A %	N/A KB	N/A
	N/A	Not Running	N/A %	N/A KB	N/A
Database auxiliary status					
	PID	State	CPU Use	Memory Use	Started
After image page writer (aiw):	N/A	Unknown	N/A %	N/A KB	N/A
Before image page writer (biw):	N/A	Unknown	N/A %	N/A KB	N/A
Auxiliary page writers (apw):	N/A	Unknown	N/A %	N/A KB	N/A
Watch dog (wdog):	N/A	Unknown	N/A %	N/A KB	N/A
Command line to start Monitoring Agent					
dbagent -db NBD0CXP5/OpenEdge/WRK101C/NH2007 -H NBD0CXP5 -S 8840 -ipver IPv4					
Progress Software Corporation (www.progress.com)					

Notice that the **Command-line to start Monitoring Agent** (which you can copy to start the db agent on the remote machine) identifies the TCP/IP version in the `-ipver` argument.

Setting the database server group property for a managed database

You can set the database server group property `ipver` for a managed database. As is the case with a scripted database, the `ipver` property has one of the following values:

- IPv4 (the default)
- IPv6

The `ipver` property determines:

- Which TCP/IP address version the database broker uses to open the database port
- Which TCP/IP address version the database broker will use to attempt to connect to the AdminServer database plug-in port
- Which TCP/IP address versions the database agent will use to attempt to connect to the AdminServer database agent port

Note: The database agent will use the TCP/IP address version specified (via the primary broker) in the primary server group for the database.

For details about setting the `ipver` property for a managed database, see the Progress Explorer online help.

Log file updates

Log files are updated to include version information about connections:

- The unified broker records the following information in the unified broker log file at startup, when logging level is set to at least 3:

```
[07/09/20@11:35:02.022-0400] P-019544 T-L-3090 3 UB Basic   ipver   : IPv6
```

- The unified broker records the following information in the unified broker log file, when an AppServer is started with an IPv6 connection:

```
[07/09/21@14:29:15.026-0400] P-031358 T-S-0001 2 UB Basic      Started
server: /usr1/stat/progress/101c/dlc/bin/_proapsv -logginglevel 2
-logfile /usr1/stat/progress/101c/wrk/asbroker1.server.log -ubpid 31358
-Ms 1 -logname asbroker1 -logentrytypes ASPlumbing,DB.Connects
-logthreshold 0 -numlogfiles 3 -ASID 1 -ubpropfile
/usr1/stat/progress/101c/dlc/properties/ubroker.properties -svrefresh
-ipver IPv6 -db onekplusdb (8108)
```

- The database server records the following information in the database log file, when a client connects with an IPv6 connection:

```
[2007/09/21@16:19:29.156-0400] P-30413      T-0      I SRV      1: (742)
Login usernum 24, userid docqa client type ABL , on devlinux01 5 using
TCP/IP IPV6 address ::1.
```

- The database broker records the following information in the database log file, when the broker connects to the AdminServer using IPv6:

```
[2008/01/04@15:13:12.778-0500] P-2574      T-1      I BROKER  0: (14262)
Successfully connected to AdminServer on port 26006 using TCP/IP IPV6
address fd00:19d:808f:1::18.
```

- The db agent records the following information in the database log file, when an agent connects to the AdminServer using IPv6:

```
[2008/01/04@15:13:25.286-0500] P-2899      T-1      I FMAGENT  8: (14262)
Successfully connected to AdminServer on port 25004 using TCP/IP IPV6
address fd00:19d:808f:1::18.
```

Discovering network resources

You can use OpenEdge Management to determine which networked machines are available. In addition to using the feature for IPv4 addresses, you can now discover IPv6 addresses.

You can also specify that OpenEdge Management return only IPv6 network addresses in the discovery results. This is useful because rather than initiating a search across a range of network addresses (which can be time-consuming if there are not a lot of IPv6 addresses), you can enter a specific host name or address in the field provided.



To search for network resources containing IPv6 addresses:

1. From the OpenEdge Management menu bar, choose **Resources**→ **Discover Network Resources**. The **Discover Network Resources** page appears:

2. Under **IPv6 Network Host**, click **Discover active resources**.

The **Discover IPv6 Port Resources** page appears:

3. Type a specific host name or address in the **Host name or address** field, and click **Discover**.

If you prefer to search all addresses, you can click **Well-known ports** to see a list of addresses using either protocol.

You can also customize the list of ports by modifying the `ports.xml` file, which you can find here:

`OpenEdgeManagement-install-dir/config`
